

09/673,840

Sequence Protocol

(1) GENERAL INFORMATION:

(i) APPLICANT:

- (A) NAME: metaGen - Gesellschaft für Genomforschung mbH
- (B) STREET: Ihnestrasse 63
- (C) CITY: Berlin
- (E) COUNTRY: Germany
- (F) POSTAL CODE (ZIP): D-14195
- (G) TELEPHONE: (030)-8413 1673
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(ii) TITLE OF INVENTION: Human Nucleic Acid Sequences from Normal Bladder Tissue

(iii) Number of sequences: 365

(iv) COMPUTER-READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: Patentin release #1.0, version #1.25 (EPO)

(2) INFORMATION ON SEQ ID NO. 1:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1722 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

cgttgaagta gatgcacaac agtgtatgct taaaaatctt gatactgcag gaacggagca 60
 atttacagca atgagggatt tatacatgaa aatggacaa ggatttgcatt tagtttattc 120
 catcacagca cagtccacat ttaacgattt acaagacctg agagaacaga ttcttcgagt 180
 taaagacact gatgatgttc caatgattct tggtaat aagtgtgact tggaaagatga 240
 aagagttgtt gggaaaggAAC aaggtaaaaa tctagcaaga caatggacaa actgtgcatt 300
 cttagaatct tctgcaaaaat caaaaataaa tggtaatgag atcttttatg accttagtgcg 360
 gcaaaattaac agaaaaaactc cagtgccctgg gaaggctcgc aaaaagtcat catgtcagct 420
 gctttatatacataatgca ttgttagctt gaggcaggc tgaagaactg ttgcccatt 480
 caacagtgcc agcattccaa ctttggtaaa cttaccaaca tcttaatgg actttcctgt 540
 ggtggtagcc tttaagaggc ggatgaaagc tactatatca gtttgcacat tctaattact 600
 ttccagttatc acaagagaga tttttactta tataatagtc ctagagttt cagctggtaa 660
 aaccagaggc tacatccagt attactgcta agagacattc ttcatccacc aatgttgtac 720
 atgtatgaaa atgggtgtact gtatacttta acatgccccca tactttgtat tggagagttac 780
 aataatgtaa atcctaaaag caccactatt ttagcataat aaaagaaaat ccaaagagct 840
 cctataataga ctactccaga taacttcgct tctttgatac ttgttagctt ttgttaatttt 900
 ttttaagaaa ttcaaggcata ttattattgt aaaaaataag cgctttgatt aacacagcta 960
 tatagttttt ttaattttta aaaaacctgt ggagacgggt atcttgcatt taaaacatgaa1020
 tagtccttcc agtataatgt ctttagattaa agacgttgcc tttaatatct gttggaaagg1080
 aaatgtccag acttttccaaa tctcttattat tatgtttccct tttttgttt acatagggaa1140
 caatgtttat agtcgtgtgt acagtgggg tctacaacaa gaagtgtata ttttcaacaa1200
 attttttaat gatttaacaa tttttgtaaa tcattttcag gcttcgtcag ctgttagattc1260
 tcactgtgaa tcccttgctt gctcatgcat aagtgtatTT gcaataccaa atatacaggt1320
 ttagtatttt tgcctgttag tgattgttc acatgtgtaa cgctttgggtt gagatgttaa1380
 atgggtggacg agtactgtgg atgtgaatgt gggaaagtaat ttaatcata tggtaattgt1440
 cacaaggcct aatttgcagt aactattgt gttttatTT acaatgcctt gttgctttgt1500
 atgcattaaat gtttggatgt aaagattgtg tgcattatcca acaggggagcc acagtattta1560
 aattgaccaa cctaattgtt caactacttt gaggtggcca atgtaaact aaaagcctta1620
 attaaagtgg tgcaattttt tataacttag catcagtagt tcaataaaatt tggattgcca1680
 tgcaaggcgt tgcattataa aaaaaaacaa aaaaaaaaaaa aa 1722

(2) INFORMATION ON SEQ ID NO. 2:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1187 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

cggctcgagg aggccggctcc ttcgtgcacc cacttggcg ctggacccccc ttcagcaat 60
 ggccaccggc cggctgcaca cgacttcccc ctggggggc actcccccaggc aggactaccc 120
 cgaccctggg tcttgaggaa gtgtgagca gcaggactg tcaccctgc ctggcgcttc 180
 ctcccggctt ccattccccac cggggggccca attaccatc cttcctgccc gatcagatgc 240
 agccgcaagt cccgcccgtc cattaccaag agctcatgcc acccggttcc tgcatgccag 300
 aggagcccaa gccaaagagg ggaagacgt cgtggccccc gaaaaggacc gccacccaca 360
 cttgtgattt cgcgggctgc ggcaaaacctt acacaaagag ttcccatctc aaggcacacc 420
 tgcaaaccca cacaggtgag aaaccttacc actgtgactg ggacggctgt ggatggaaat 480
 tcgcccgcctc agatgaactg accaggactt accgttaaaca cacggggcac cgcccggttcc 540
 agtgcacaaa atgcgaccga gcattttcca ggtcgacca cctcgccctt cacatgaaga 600
 ggcattttta aatcccagac agtggatatg acccacactg ccagaagaga attcagtatt 660
 ttttactttt cacaactgtct tcccgatgag ggaaggagcc cagccagaaa gcactacaat 720
 catggtcaag ttcccaactg agtcatctt tgagtggata atcaggaaaa atgaggaatc 780
 caaaagacaa aaatcaaaga acagatgggg tctgtgactg gatcttctat cattccaatt 840
 ctaaatccga cttgaatatt cctggactta caaaatgcca aggggggtgac tggaaagtgt 900
 ggatatcagg gtataaattt tatccgtgag ttgggggagg gaagaccaga attcccttga 960
 attgtgtatt gatcaaatat aacataaaa gatcacctt tattctctt accttctaaal020
 agccattatt atgatgttag aagaagagga agaaattcag gtacagaaaa ccatgtttaal080
 atagcctaattt gatgggttgc gtgagcttgg tcctaaaggt cccaaacaagg gagccaaagg 1140
 tttaaactgc tggatccttgc gcaagggaa atctgtgttt tttccg 1187

(2) INFORMATION ON SEQ ID NO. 3:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1478 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

gcgaaccgcg cgcgtgccc gtcctgcgt gcccagcggg aggggctgga ccccgcg 60
 ctccctccctg ccgttccccca tccttaaagc gagagtctgg acgccccgccc tggggagag 120
 agcgccggga tccggacggg gagcaaccgg ggcaggccgt gcccgtgag gaggtcctga 180
 ggctacagag ctggccggc tggcacacga gcccgtcgcc actaaccgag tggcggg 240
 ggctgtgagg ggaggggcccc gggcgccatt gctggcggtg ggagcgccgc cgggtctcag 300
 cccgcctcg gctgtctcc tcctccggct gggagggccc gtagctcgcc gccgtcgcca 360
 gccccggccc gggctcgaga atcaaggggcc tcggccgccc tcccgcaagct cagtccatcg 420
 cccttgcgg gcaagccggg cagagaccat gtttgacaag acgcggctgc cgtacgtggc 480
 cctcgatgtg ctctgcgtgt tgctggctgg attgccttt gcaatttta cttcaaggca 540
 taccggccca caacgaggag tattctgtaa tgatgagtcc atcaagtacc cttacaaaaga 600
 agacaccata ccttatgcgt tattaggtgg aataatcatt ccattcagta ttatcggttat 660
 tattcttggaa gaaacccctgt ctgtttactg taaccttttgc cactcaaatt cttttatcag 720
 gaataactac atagccacta tttacaaaagc catttggaaacc tttttatggt gtgcagctgc 780
 tagtcagtc ctgactgaca ttgccaagta ttcaataggc agactgcggc ctcacttctt 840
 ggatgtttgt gatccagatt ggtcaaaaat caactgcggc gatggttaca ttgaataacta 900
 catatgtcga gggaatgcag aaagagttaa ggaaggcagg ttgtccttctt attcaggcca 960
 ctcttcgttt tccatgtact gcatgtgtt tggtgcactt tatctcaag ccaggatga 1020
 gggagactgg gcaagactct tacggcccac actgcaattt ggtcttggtt ccgtatccat 1080

 ttatgtgggc ctttctcgag tttctgatta taaacaccac tggagcgatg tggtgactgg 1140
 actcattcag ggagctctgg ttgcaatatt agttgtgtt tatgtatcggtt atttcttca 1200
 agaaagaact tcttttaaag aaagaaaaaga ggaggactt catacaactc tgcatgaaac 1260
 accaacaact gggaaatcaact atccgagcaa tcaccagcc tggaaaggcag cagggtggcc 1320
 aggtgaagct ggcctgtttt ctaaaggaaa atgattgcca caaggcaaga gggatgcac 1380
 tttcttcctg ggtgtacaag ccctttaaa gacttctgc tggctgcgtat gctcttgg 1440
 atgcacagtt gtgtgtacaacat gagttacccctt aactcgtg 1478

(2) INFORMATION ON SEQ ID NO. 4:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 411 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

gccacatttc cgggggttttgc cggggccccgc gatgtttcc agagctttc aagtgggaag 60
aggagagcga caacgtgaaa atgccccgtg ccggggcgtc caccggagtc ctgccagctg120
tccggcgctg gggtgacgt ctgattttag aagctccccca tccacctatc tgagtacctg180
acttctcagg actgacacacct acagcatca gtagcacagct tctccttagca tgacttcgat240
ctgatcagca aacaagaaaa ttgtctccc gtagttctgg ggcgtgttca ccacacctaca300
ccacagagct gtcatggctg ccacatctac ttccatccc gtaatttcac agccccagtt360
cacagccatg aatgaaccac agtgcttcta caacgagtcc attgccttct t 411

(2) INFORMATION ON SEQ ID NO. 6:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3181 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vi) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

SEQUENCE ID NO. 6

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

cggtgggggt gggagcaggg gggcacagtg ccccgaaaaac ccgtgtggtc acacacacgc 60
actgcgcctg tcaagtatgg acattgtaat ccagtcggct tgttcttgca gcattccgc 120
tcccttccct coatagccac .gctccaaacc ccagggttagc catggccggg taaagcaagg 180
gccatttaga ttaggaagg ttttaagatc cgcaatgtgg agcagcagcc actgcacagg 240
aggaggtgac aaaccatcc caacagcaac acagccacta aaacacaaaa agggggattg 300
ggcgaaagt gagagccagc agcaaaaaact acattttgca acttgttggg gtggatctat 360
tggctgatct atgccttca actagaaaaat tctaattgatt ggcaagtac gttgtttca 420
ggtccagagt agtttcttgc tgcgtctt aaatggaaac agactcatac cacactaca 480
attaaggtca agcccagaaa gtgataagtg cagggagggaa aagtgcagt ccattatgt 540
atagtgcacg caaagggacc aggggaggg cattgccttc tctgcccaca gtct .cmj 600
gtgattgtct ttgaatctga atcagccagt ctcagatgcc ccaaagtttc ggttcctatg 660
agccccgggc atgatctgat ccccaagaca tgcgtggggg cagcctgtgc ctgccttgc 720
gtcagaaaaa ggaaccaca gtgagcctga gagagacggc gattttcggg ctgagaaggc 780
agtagtttc aaaacacata gttaaaaaaag aaacaaatga aaaaaatttt agaacagtcc 840
agcaaaattgc tagtcagggt gaattgtgaa attgggtgaa gagcttagga ttctaatctc 900
atgttttttc ctttcacat ttttaaaaaga acaatgacaa acacccactt atttttcaag 960
gttttaaaac agtctacatt gagcatttga aaggcgtgct agaacaaggc ctcctgatcc 1020
gtccgaggct gcttcccaga ggagcagctc tccccaggca tttgccaagg gaggcggatt 1080
tccctgttag tgcgtctgt tggcttcct tcctgaagag tccgtgggtg ccctagaacc 1140
taacaccccc tagcaaaaact cacagagctt tccgttttt tctttctgt aaagaacat 1200
ttcccttgaa ctgtatttgc tatggatcaa agaaatttc aacagcctgc ctgtcccccc 1260
gcactttta catatatttt tttcatttct gcagatggaa agttgacatg ggtgggtgt 1320
ccccatccag cgagagagtt tcaaaagcaa aacatctctg cagttttcc caagtaccct 1380
gagataacttc ccaaagccct tatgtttaat cagcgatgta tataagccag ttcacttaga 1440
caactttacc ctctttgtcc aatgtacagg aagtgttct aaaaaaaaaatg catattaatt 1500
tcttccccca aagccggatt cttaattctc tgcaacactt tgaggacatt tatgatgtc 1560
cctctggcc aatgcttata cccagtgagg atgctgca gaggctgtaa agtggcccc 1620
tgcggcccta gcctgaccgg gaggaaagga tggtagattc tgtaactct tgaagactcc 1680
agtataaaaa tcagcatgcc cgccatgtt cctaccggag agttatcctg ataaattaac 1740
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tcatctgtaaa gtgctggggc ccttaagtga tttgcctgta atttggatg attaaaaat 1860
gtgtatataat attagctaat tagaaatatt ctacttctct gttgtcaaac tgaattca 1920
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gtgctcatac gtatctgctc attttgcacaa agtgcctcat gcaaccggc cctctctctg 2040
cgccagagtc cttagtgagg gggtttacct ggaacattag tagttaccac agaatacgg 2100
agagcagggtg actgtgtctgt gcagctctc aatggaaat tctcaggtag tttaccac 2160
cttcagaaaag agtctaaaat aaattggaaa tgtgaatcgc agctgtgggt tttaccac 2220
tctgtctcag agtcccaggc ctttgaggat cattagttac ttattgaag gtttagacc 2280
catagcagct ttgtctctgt cacatcagca atttcagaac caaaaggag gctctctgt 2340
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ctaattatcg cttagggccaa ggtgggattt gtaaagctt acaataatca ttctggatag 2520
agtccctgggaa ggtccttggc agaactcagt taaatcttgc aagaatattt gtagttatct 2580
tagaagatag catggggaggt gaggattccaa aaaacattt atttttaaaaa ttcctgtgt 2640
aacacttggc tcttgggtacc tgcgggttag catcaagttc tcccccagggt agaattcaat 2700
cagagctcca gtttgcattt ggatgtgtaa attacagtaa tcccatattcc caaaccta 2760
atctgtttt ctcatcagac tctgagtaac tggttgtgt gtcataactt catagatgca 2820
ggaggctcag gtgatctgtt tgaggagagc acccttaggca gcctgcaggc aataacatac 2880
tggccgttct gacctgttgc cagcaagatac acaggacatg gatgaaattc ccgtttctc 2940
tagttcttc ctgttagtac cctcttttag atcctaagt tcttacaaaaa gctttgaata 3000

(2) INFORMATION ON SEQ ID NO. 7:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1964 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

gcaacatgtc tgccaccaac attggcattc ctcacacgca gagattgcaa gggcaaatgc 60
 cagtgaaggg gcacatttcc atccgctcca agtctgcgcc actgcccctct gcggctgctc 120
 accagcagca gctgtatggc cgtagccat cggcagttgc catgcaggct ggcctcgcg 180
 cactggctgt tcagcgtggc atgaacatgg gggtaatct gatgcctact cccgcctata 240
 atgtcaattc catgaatatg aacaccttga atgccatgaa cagctatcga atgacacagc 300
 ccatgatgaa cagcagttac catagtaacc ctgcctacat gaaccagaca gcacagtatc 360
 ctatgcagat gcagatggga atgatggga gccaggccta taccagcag cctatgcagc 420
 ctaaccctca tggaaacatg atgtacacag gcccctccca tcacagctac atgaacgctg 480
 ctggcgtgcc caagcagtca ctcaacggac cttacatgag aagatgagca agatgaactt 540
 gcaatcaaaa acttaaatat atataaataa aggaacctt tatactgaca aaccagagaa 600
 aaatggacct tttccagtt aaaatattgc ttagatgat tggaaatttt tctttggttt 660
 attttatttt ttagaaaacc ttagtttctc tttttttggg ttcattttgt tctggggttt 720
 ggtttcttc acaatcttga acatttaca ttagaactca tctaaaaatg gatttgggga 780
 tggggaaaca tgcacaaaaat ctttcataa ttaaaaagag ctttactttc tttacataacc 840
 acatggacag aatttgtgta aaagtgaatt atctttat taaaatgtat gtttcccctc 900
 actgtttgca gtcacaaatg ttgtcatttt taaaatgtat atacatctca agggtaacc 960
 agaccctttc ctccaaaccc aaccccttcat ttcctacttc attccagcag gaggcactt 1020
 ggggagactc ggtatgggac atggagaaca acccaagctc cttaaactat taaagtgagg 1080
 caggaaaaatg cttctcctt taaaatcccc tccactcctc acacacacac acctcttga 1140
 accctcccc aagaatgtt ctttatacgg gacttcatt gaaatcttg ttgttcttga 1200
 atcaagtgtt atataatttt tttttcttt tttaaaaat tcccaactcag cactcagaga 1260
 cacaaaaaata ctgtaaatc caattaacag cagaatctca gagaaaagct gtttgcata 1320
 caaatccagc ctttggagga atagagatgg tcaattaaca atcaaaaaga ggagattaac 1380
 ctcttggttt ttraccaccc ggtgaatcag ccataacgca cacacacgac acccagcctc 1440
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 gataaaaactc aaatagcagt ccccaagtgtat ttgccttta ggttcttct taaatttttg 1560
 gtggatgact gtacattta gtgattgaa aaataactga caaaccattt aacagttt 1620
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 gtagctat ttttgcata tacctctgtt ttttgcata ttttgcata cctgagttca 1740
 tccctgttca atcagatgtc acaagcacct ctccctgttgc tggctatgc gaaaggagggac 1800
 agaccgacc acaagcacat agggcagatc tggacagcag aatgttataa cgcaagttca 1860
 tgcgttgc tccactccat tctctttct ctcgtgcac cagtttgcac attctcttcc 1920
 tattacttgc tccaggata ggtaaaaaaa aaaaaaaaaa aaaa 1964

(2) INFORMATION ON SEQ ID NO. 8:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1702 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vi) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

ggacacccca ggtatgtgga cgagcagttc ctgtcacgcc tcttcctatt tgtggccctg 60
 gtgatcatgt tctggctctt gattgcctaa tgctgggctc ctgcgtacat ccgtggcagg 120
 gctctggact ggtgacgtgc caccggact cctgggttt ggcttcctgg ctaatcttga 180
 ctccctgaaat cagtgggatc agtaacacat caaggagttc tgtttcttca tcagagcttt 240
 ggaactcggag accagttggc gatgacccctt gaatatcgcc accgctgtaa acactctata 300
 acttcaggcc ttggcatttga gtcatctctc atgggtgaca ccatgaaaatc ttgtttcagc 360
 cagttctgca ggtcctgact ctgcagaggg aagaggcaga aagagagaaa ctgtcagagt 420
 ataatttcac ctgagttttaa tattacagaa acaaaggat gcacccaaatg gtatttctgg 480
 aaatttcat gtcttttaat accccttggt aagttgcttc tgaagccagt gggggcttcc 540
 cagatagaga ggtcccccctt tcaaataccca gtgccgctct gttctcttc cttcccttcc 600
 cactcccccctt ctcttcctc tgtagagatg caagaaaattt ctgtccctata aaaatcataa 660
 ttgcagtagc taaagctggg gtcacttcgtt gaattcacca gagactcaaa gatcttttat 720
 tggctctggg ctgtgctcag tgcctttggc ctcagagaaac aacttgaatg acttccttgg 780
 ttccctggcat aaatttattcc tggtgagaca tggctttaa ctcacaggtt tcccatcagc 840
 ttctccctta aaactatgtt catctgcctc tctctgcccag agaacataca gccgagaata 900
 ctgcggaaagc tgagactgac tactgtcat tagggaaagac ctggagtcag gactttggg 960
 ggattttggag ctccggaggca gtaataactg aacaaggcagc cctgtcccccaggctgcaga 1020
 agcttgaatg catcctctcc cagaacctgc cacagggaaac tgggggcttt gtcaggtcag 1080
 cccaaactgca tgcaaaaagac caccatcctc agaaggccaaatg ttgtctttta tgaagaggc 1140
 aggaaaagggg aaaccacat gtgaccctga ttttggatag gctttagataga gttccctgaa 1200
 aactccttgc atgtgtgcta aaaccaggaa agcatgtgac tgccaaaggcag gcaaccctg 1260
 atgattttgtt aagccagggtt gcaaggccctt ggggagccccc agcacaatga tattgtgtgg 1320
 tttccctcc tggatgttgc agggggaaattt attcttccttccat ataccttgcat ttgattttca 1380
 gtttcataag ctcttcctc tgaatcttgc tggggacta tggtaggacatc gaggtaggac 1440
 tggcacctg tggaaacagt tcttgcctc ctttcttaggc ttcatcccttccat aaatccagcc 1500
 tttttcttggaa gacccaaatg ctggaggggag atgggcttcc ctctggccctt ctcttccttccat 1560
 tttgccccatcc acactgctcc tggcttacccc cagcaagaac caacaaatgg gtagggaaagc 1620
 cccatctaat tggctttttt tcttcaattt tggacgtgca ttgttttggt tggaaacaaatgg 1680
 aggttttggaa ggggagatgt gg 1702

(2) INFORMATION ON SEQ ID NO. 9:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2067 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

gccgcaggct cccgggttcc ccatattcgag aggagctcct ggctgctatt gcaaattcacc 60
 aagtccatcat cattgaaggc gagacagggt cagggaaagac caccagatc ccgcagtatc 120
 tctttgagga gggttataca aacaagggtt tgaagattgc ctgcacccaa ccccgagag 180
 tggctgccat gagggtggcc gcccggatgg cccggggat ggggtgtgaag cttggaaatg 240
 aggttggcta cagcatccgc tttgaggact gcacatcaga gcaactgtc ctccgcata 300
 tgacagatgg gatgtttctc cgggagttcc tctctgagcc tgacactggcg agttacagcg 360
 tggtgatggg ggtatggc cacaaggaa ccctacacac agacattctc tttggattga 420
 tcaaggatgt tgctcgctc cgacatggc tcaagggtctt ggtggcttca gccacaatgg 480
 acactgccc tttttccacc ttcttgatg acggccctgt gtttcaatc cccggacgca 540
 ggtttccctgt ggacatctc tacaccaagg ctccagggc tgactacttg gaagcttgc 600
 tagtatctgt ttgcagatc catgtgaccc agccccctgg ggtatccctg gtgttctcga 660
 caggacagga ggagatttag gtcggctgtg agatgttcca ggatcgctgc cgccgcctgg 720
 gctccaaaat cccggagctc ctggctgtc ccatttatgc caatctgccc tctgacatgc 780
 aggcccgtat cttccagccc acaccacctg gggcacgaaa ggtgggttgc gcaacgaaca 840
 ttgctgagac atcaactcacc attgaggggca tcatttatgt gtcggatcca gggttctgt 900
 agcagaagag ctacaacccc cgcacaggc tggaatcgct cactgtcaca ccctgcagca 960
 aggccctcagc caatcagcga gtcggctggg caggtcgggt ggctgcaggg aagtgcctcc 1020
 gcctgtatac cgcctggccc tatacgacg agcttgagga aaccacagtg cctgagatcc 1080
 agaggaccag ttgggcaat gtcgtgtgc tgctcaagag cttagggatc catgaccta 1140
 tgcactttga tttccctggac cctccacat atgagacact gtcgtgtgc ttggagcagc 1200
 tgtatgtctt gggagccctc aaccacctt gggagctcac cacgtctgtt cggaaatgg 1260
 cagagctgcc ggtggacccc atgtgttcca aaatgtatcc agctctgt aagtacagct 1320
 gttcagagga gatccttgaca gtggctgcca tgctctctgt caacaactcc atcttctacc 1380
 gaccaaagga caaggtcgtc catgtgacca atgcccgtgt caacttcttt ctccctggcg 1440
 gtgaccaccc gtttctgtca aatgtttaca cacagtggc tgagagtggt tactctccc 1500
 agtggtgcta tgagaactt gtacagtca gatcgatgc cggagcccg gatgtgggg 1560
 aacagctgga agggctctg gaacgtgtgg aagttggctt cagttctgtc cagggggact 1620
 atatccgtgt acgcaaggcc atcaactgtc gtttactttt ccacacggc cggttgactc 1680
 ggagttggcta cccgcacatg aaacagcgc agacagtctt cattcatccc aactcctccc 1740
 tctttgagca acagccacgc tggctgtct accacgaact tgcgttgc accaaaaggt 1800
 tcatgagaca ggtactggag attgagagca gttggctct ggaggtggct ccccatatt 1860
 ataaggccaa ggagcttagaa gatccccatg ctaagaaaaat gccccaaaaaa ataggcaaaa 1920
 cacgagaaga gtcagggtaa gagaaggacg taaacacggc ctgacaccag ctcctttcc 1980
 ttctatacat tatttaatac ctattaaata aaattatccc tggataaaag cttgtggaa 2040
 catttggat ctagaaaaaa aaaaaaaa 2067

(2) INFORMATION ON SEQ ID NO. 12:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2548 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

cccccaagccc tcatctgcaca ccgcagtcgt gttggagctg ttgtcttgta tgctcagcga 60
 gggccggaga gacccgggag agagcttaggc cgagtccacc gcccggagtct gctggccgag 120
 cccgcgttac gcacaaaagcc gccgatcccc ggcctgggtt gaggcagagcg accaccggccc 180
 gggagcagcg cggcgagacg cacggtgcgc cctatgcccc cgccggccca ccggcccccgc 240
 cggccgcagcc gaagcgcagc gagagaacgc gcccaccgcgg ggcccggtt cagctagcga 300
 ccctctcgcc acctgcgcgc agcccgaggt gagcagtggag cggcgagcgg gagggcagcg 360
 aggcggttcgc gggcccccctc ctgtctgcctcg ggcccggttcc tcattggcgcc catccgcaag 420
 aagctggtgg tggtgtggcga cggcggtgt ggcaagacgt gcctgtctgtat cgtgttcaagt 480
 aaggacgagt tccccgaggt gtacgtgcac accgtcttcg agaactatgt ggccgacatt 540
 gaggtggacg gcaaggcaggt ggagggtggcg ctgtgggaca cggcgccca ggaggactac 600
 gacccgctgc ggccgctctc ctaccggac accgacgtca ttctcatgtt ctctcggtt 660
 gacagccccc actcgctgga gaacatcccc gagaagtggg tccccgaggt gaagcacttc 720
 tgtcccaatg tgcccatcat cctggtggcc aacaaaaaaag acctgcgcag gacgagcatg 780
 tccgcacaga gctggcccg atgaagcagg aacccgtgcg cacggatgac ggccgccc 840
 tggccgtgcg catccaaggg taccgactacc tcgagtgctc tgccaaagacc aaggaaggcg 900
 tgcgcgaggt cttcgagacg gccacgcgcg ccgcgtctca gaagcgttac ggctccca 960
 acggcgtcat caactgctgc aagggtctat gagggccgcg cccgtcgccg ctgcccctgc 1020
 cggcacggct cccccctctg gaccaggccc ccgcggagccc ggagaagggg agaccgtgt 1080
 cccacaagga cccccaccgc ctgcctggca tctgtctgt gacccctctg gcttgcgc 1140
 ggacttggcg tgggcacccgg ggcgcggccat cccagtgctc gtgtgcgtcc agctgtgttg 1200
 cacaggcctg ggctccccac tgagtgcacaa gggtccccctg agcatgttt tctgaagagc 1260
 cgggcctcag agtgtgtggc tgtgtgtctg ttcgactccc ctgcggccat tttcacccca 1320
 ccccccgcctc tgatccccgg gggcagatg ggcgcggag tggccgcgcg ccccatcaga 1380
 tgttcgccct tcaccagcgg gagcttgata tcccttgct gtaacataga ccccggtac 1440
 tgcgggaggg gagggtgtgt ggggaggatg gggggatgtt atataaatat agatataatt 1500
 ttatccccgg agctaagatg gtgttattta aggggtggta tgggtgagcg ctctggccca 1560

ggctgggcca gactcccgcc caagcatgaa caggacttga ccatcttcc aaccctggg1620
gaagacattt gcaactgact tggggaggac acagcttcag cacagcctct cctgcgggcl680
agcccgctgc gaaccctcca ccagctaccg gaggaggag ggaggatgcg ctgtggggtt1740
gttttgccca taagcgaact ttgtgcctgt octagaagtg aaaattgttc agtccaaga1800
actgatgtta ttgttattat ttaaaggcta aaatttgtt ttttatttctt tgacacaattg1860
tttcatgtt tgacacttaa tgcaactcgctc atttgatac gacagtagca ttctgaccac1920
acttgtacgc tgtaacctca tctacttctg atgttttaa aaaatgactt ttaacaagg1980
gaggaaaaag aaacccacta aattttgtt tggggctt aagaatgtgg caacactgtt2040
tttgttattt atttgtcag gtcatgcaca cagtttgat aaagggcagt aacaagtatt2100
ggggcctatt tttttttt tccacaaggc attctctaaa gctatgtgaa attttctctg2160
cacctctgtt cagagaatac acctgcccctt gtatattctt ttttcccttc ccctccctcc2220
cagtggtaact tctactaaat tgggtgtt ttttttattt tttaaataaa ctgacaaatg2280
acaaaaatgtt gagtttatgtt tgtttacata aaagttctat aagctgtgtt tacagtttt2340
tatgtaaaaat attaaaagac tatgtatgtt acatttttt aaaaagaaatc ttgtgtttt2400
atagtgtgtt aaaataccct tggatattt gacaaggga gatattctcc taggcgagat2460
ccttcttgc caactccgtt tcccttatacg caaatgtatg aaatgaggat gaagtccctt2520
tgagagcatg tgggggttgg gtgaccaa 2548

(2) INFORMATION ON SEQ ID NO. 13:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1673 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

accaatgcac atgttagtaat caaatgtttg gggctagata ttatggtata caaaaaacat 60
 taaaatcatg tggtttgc当地 gcaaagcaaa catttttgc当地 aatgtttgc当地 aattggccac 120
 aaccacaaat tcaagaaaatt tttaaaaag aaaaaagcca gcttacaaag atttgaccaa 180
 taaaacccct cgagcccaca gccttacag ctgggttga gggaaagactg gtcttaggtgc 240
 tgctcctgaa ctgggtctct gagccatggc ttccataga cactcaggc当地 cctccagcta 300
 caaggtggc accatggcgg agaagttga ctgccc当地 acatcaggc当地 ccttgcagg 360
 gaagaagttat gtgcaaaaagg atggccacca ctgctgc当地 aaatgtttg acaagttctg 420
 tgccaaacacc tgggtggaaat gccgcaagcc catcggtgc当地 gactccaagg aggtgc当地 480
 taagaaccgc ttctggcatg acacotgctt ccgtgtgc当地 aagtgc当地 accccttggc 540
 caatgagacc ttgtggccca aggacaacaa gatcctgtgc aacaagtgc当地 ccactcgg 600
 ggactcccc aagtgc当地 agg ggtgctca ggc当地 cattgtgc当地 gcaggagatc aaaacgtg 660
 gtacaaggg accgtctggc acaaagactg cttcacctgt agtaactgc当地 agcaagtcat 720
 cgggactgga agcttcttcc ctaaaggggg ggacttctac tgc当地 gactt gccatgagac 780
 caagtttgc当地 aagcattgc当地 tgaagtgca aaggccatc acatctggag gaatcactta 840
 ccaggatcatg ccctggcatg ccgattgctt tgggtgtgtt acctgctcta agaagctggc 900
 tgggc当地 cagcgt ttccaccgctg tggaggacca gtattactgc gtggattgct acaagaactt 960

tggcccaag aagtgtgctg gatgc当地 agaa ccccatcact gggtttggta aaggctccag 1020
 tgggtggcc tatgaaggac aatcctggc当地 cgactactgc ttccactgc当地 aaaaatgctc 1080
 cgtgaatctg gccaacaaggc gctttgtttt ccaccaggag caagtgtatt gtcccgactg 1140
 tgccaaaaag ctgtaaactg acaggggctc ctgtcctgtc当地 aaatggc当地 tgaatctcgt 1200
 tctttgtgtc cttactttct gc当地 cctataacc atcaataggg gaagagtggt cttcccttc 1260
 tttaaaggcc tccctccgctc ttttctccca ttttacagta ttactcaa at aaggccacac 1320
 agtgc当地 atcata tttagcatttgc当地 gcaaaaagca accctgc当地 agtgc当地 ttactc 1380
 tgcaatttccaa aatgaaaac tttaggttagt tgactcttct gc当地 atgatc当地 catagagc 1440
 aaaaatgtgc当地 atcatttgc当地 cacttagtgc当地 tgaagc当地 aagcata gataaaaaccc 1500
 ccactgagat gc当地 ctcatg cctcagctgg gacccaccgt gtagacacac gacatgc当地 1560
 agttgc当地 gagc当地 gctgctccas ctcactgctt caccggctt ctgtggagcc gggagaagg 1620
 accctactgg accatggcat ggggttaact ttccctcatca ggactctggc cct 1673

(2) INFORMATION ON SEQ ID NO. 14:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1593 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

ggggccagga cgccgcgggg cgccggagtgg ctggccctgcg cggggacact cagagccccgg 60
 tggggcggggag gaaggcgca tgccccagac ggtgatccctc cccggcccttg cgccctgggg 120
 cttagggctc tcagggggca tagacttcaa ccagcccttg gtcataccca ggattacacc 180
 aggaagcaag gcccgcactgc caacctgtgt cctggagatg tcatctggc tattgacggc 240
 tttgggacag agtccatgac tcatgtgtat ggcgcaggaca ggattaaagc agcagctcac 300
 cagctgtgtc tcaaaaattga caggggagaa actcacttat ggtctccaca agtatctgaa 360
 gatgggaaag cccatccctt caaaatcaac ttagaatcag aaccacagga attcaaacc 420
 attgttaccg cgcacaacaa aaggggccag ccttttggc cagctgcaaa cattgtatgac 480
 aaaagacagg tagtgagcgc ttctataac tgcgcatttgc ggtcttatttca aactagcaat 540
 atacaagatg cgcttcacgg acagctgcgg ggtcttatttca ctagctcacc tcaaaaacgag 600
 cccacagcct cgggtcccccc cggatcgac gtttaccggc tggtccacga caatcggaat 660
 gagcccacac agcctcgcca gtcgggtctcc ttccagagtgc tccaggaaat ggtggacgat 720
 ggctctgtat accgtccggc tggaaacgcgg agtgtgagag ctccgggtgac gaaagtccat 780
 ggcgggttcag gcggggcaca gaggatgcgg ctctgtgaca aatgtggggag tggcatagtt 840
 ggtgtctgtgg tgaaggcgcc ggataagtac cggcaccctg agtgcttcgt gtgtgccgac 900
 tgcaacctca acctcaagca aaagggtctac ttcttcatag aaggggagct gtactgcgaa 960
 acccacgcaa gagcccgac aaagccccca gagggtatg acacgggtcac tctgtatccc 1020
 aaagcttaag tctctgcagg cgtggcacgc acgcacgcac ccacccacgc gcacttacac 1080
 gagaagacat tcatggctt gggcagaagg attgtgcaga ttgtcaactc caaatctaa 1140
 gtcaaggctt tagaccttta tccttattgtt tattgaggaa aaggaatggg aggcaatgc 1200

 ctgttatgtt aaaaaaaacat acacttagct atgttttgc actcttttttgc gggctagcaa 1260
 taatgtatatt taaagcaata attttttgtt tgcataactc cacaattttac atgttatatt 1320
 cagccatcaa acacataaaac atcaagatat ttgaaggact ctaattgtct ttccttgac 1380
 agttgatttt gcaattgtgg taaatagcaa ataacaatct tgcattctaa cataatctgc 1440
 agttgtctgt atgtgttttactattacag tgcattttgc gggaaaatttgc cctgaaatttgc 1500
 tttatgttttgc tattcaaaaca attatgccac tgcattttgc aacataata aatacataaa 1560
 agataaaaaa aataaaaaaaa aaaaaaaaaaaa aaa 1593

(2) INFORMATION ON SEQ ID NO. 17:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1722 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

cattgtttgc	caaaatcccc	ggcagcatgg	acctcagttc	tctctgggta	cttctgc(ccc	60
tagtcacccat	ggcctggggc	cagtatggcg	attatggata	cccataccag	cagtatcatg	120
actacagcga	tgtatgggtgg	gtgaatttga	accggcaagg	cttcagctac	cagtgtcccc	180
agggggcaggt	gatagtggcc	gtgaggagca	tcttcagcaa	gaagggaaagg	tctgacagac	240
aatggaaacta	cgcctgcata	cccacaccac	agagcctcgg	ggaacccacg	gagtgtctgg	300
gggaggagat	caacagggct	ggcatggaa	ggtaccagac	gtgctccaac	aatgggctgg	360
tggcaggatt	ccagagccgc	tacttcgagt	cagtgctgg	tcgggagtgg	cagtttact	420
gttgtcgcta	cagcaagagg	tgcccatatt	cctgctggc	aacaacagaa	tatccaggtc	480
actatggtga	gaaaatggac	atgatttcct	acaattatga	ttactatatc	cgaggagcaa	540
caaccacitt	ctctgcagtg	gaaagggatc	gccagtggaa	gttcataatg	tgccggatga	600
ctgaatacga	ctgtgaattt	gcaaattgttt	agatttgcca	cataccaaat	ctgggtgaaa	660
ggaaaaggggc	cggggacagg	agggtgtcca	cataatgtta	catcagttgg	atctcctata	720
gaagtttctg	ctgctctctt	tccttctccc	tgagctggta	actgcaatgc	caacttcctg	780
ggcctttctg	actagtatca	cacttcta	aaaatccaca	attnaaccat	gtttctca	840
tttcacatgt	ttcatagcaa	ctgctttata	tgactgtat	tggcttcctt	gcacaccaca	900
tatacagtgc	gcatgtttac	agccgggctt	ctggagcacc	agctgcagcc	tggctactgc	960
tttttactgc	agaatgaact	gcaagttcag	catagtggag	gggagaggca	gaactggagg	1020
agaggtgcag	tgaagggtct	ctacagctaa	gcctgtttga	atgatacgt	gttcccccac	1080
caaaagcagg	cttctgccc	tgagggacat	cttcccactc	ccctgctcca	catgagccat	1140
gcatgcttag	caatccaagt	gcagagctc	ttgctccagg	agtgaggaga	ctgggagggt	1200
aaatggggaa	atggaagggt	ttggaggcag	agctgaaaac	agggttggaa	ggatttctg	1260
aattagaaga	caaacgttag	cataccagt	aaggaaaatg	agtgcagggg	ccagggaaac	1320
ccgtgaggat	cactctaaa	tgagattaa	aacaaggaag	cagagaatgg	tcagagaatg	1380
ggattcagat	tgggaaactt	tggggatgag	agtgaccagg	ttgaactgg	aagtggaaa	1440

aggagtttga gtcactggca cctagaagcc tgcccacgat tccttaggaag gctggcagac1500
acccttggAAC cctggggagc tactggcaaa ctctccttggta ttggggccttga tttttttttgtt1560
gggaaaaggct gccctggggta tcaactttcc ttctgtgtgt gggttcaggag ttcttctgc1620
gagatggcgc tatctttctt cctcctgtga tgcctgttc ccaaccattt gtactcttc1680
ttacaaaaaqa aataaaaaata ttaacgttca ctatqctgaa aa 1722

(2) INFORMATION ON SEQ ID NO. 18:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1648 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

tgaccaagaa acagggccta aggatcattt tctcgatgc atcacggctc atctccggc 60
tcagttcctc cagtggtgtg cggccaccc tgcagactgt acgcagagag ctacgagagg 120
gatcccagcg gccatgacca ggagccacag gcagtgcgtga gcctctcat agccatcgca 180
ctgaaaatat cccagattca tgagagaact ggccggaggg gaccactgt catcacctga 240
atagaggaaa gatcaactcac cagggccaaa gagagtgcgc agcgggagat gcttcaactga 300
tgccttcgtt ctacctgtt gtgcctctta tgactttgga aaaacaaaag atatttgct 360
tttggggat agaggggtggg tggaaaaga aaaaaaatcc atttggtttt gttttgtcc 420
tattcctcca aatgcagcag ggcctttagt tgcgtttaa agtgcacta taatttggta 480
tctacatttt atcacacaaa ggaacctccc ctttgacaa caactggct aggcaagctgt 540
taatcacaac atttgtgcat cactgtgcc aagtgagaaa atgttctaaa atcacaagag 600
agaacagtgc cagaatgaaa ctgaccctaa gtcccaggtg cccctggca ggcagaagga 660
gacactccca gcatggaggaa gggttatct tttcatccta gtcaggtct acaatggggg 720
aaggtttat tatagaactc ccaacagccc acctcactcc tgccacccac ccgatggccc 780
tgcctccccc atcccatccc caacatccct gtaccacctt ctctcacatc ttctaaagct 840
ttgtacaaat cacaatggtg cactccaac aaaatatatc aataggtgtt ttctctcttt 900
atttttaaa tagtattatt tttagtatta agctggatac ttctttcaa attcagccat 960
tcagttgtaa agttgggaag aagttcttg acaagactct gcaattaaat gcttaaaatt1020
tggagggat cttcccttga ttacatcaag tatgttggta catgggtta tacaagttcc1080
tcttggaaag gaaaaagac caccatgtgt gagagctctt tgacttggcc aatagggcc1140
tatcttaatg cacttggttt gacacatttc tgatcttatt tgtaaaggct gcaaaaggag1200
aggatgaaat gctgtaaaag taggaaatga agtggaaagct ggaagaaaat gtaatggtg1260
gtacagctat gggccagatg gtggagggga ggggtgggac ccctgccggc aagcagagt1320
tcacagctgg cttccctcac ttggaaaag ggtactgccg gtctagcagc ctcctctgt1380
ctcagccagg acacccagcg cgtggaccc gtttgtgtct gtttgcctt cttggaaacg1440
gcacagtccac tcacccctgcc atttgcggaa atgacctggat gcaacttgac tggtaagca1500
tgcgttattt ctgttagtcaa ggttagtgcg agcaaggaaa cattcccaagt aaggtatgg1560
tttccatattt ctgtctgtgc ttctgtcaga aacttgcgt gacttttagt gccaataaaa1620

aagaaattcc taatttcaac cttaaaaa

1648

(2) INFORMATION ON SEQ ID NO. 20:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1610 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

gcgcgctgat tggacgcgtg gggcgaggcg gaggagagcc gtgcgcacgg cgtatgtggg 60
 gccgtgtgca gaccgcgtg tggcgccaggc aaggacocctc aaaataaaaca gcctctacct 120
 tgcgagccgt cttccccagg cctgcgtccg agtctccgccc gctgcgggccc cgctccgacg 180
 cggaagatct gactgcagcc atgagcagca atgagtgtt caagtgtggc ccatctggcc 240
 actggggcccg ggaatgtcct actgtgtggag gccgtgttcc tggaaatgaga agccgtggca 300
 gaggtttcca gtttgtttcc tcgtcttcc cagatatttgc ttatcgctgt ggtgagtctg 360
 gtcatcttgc caaggattgt gatcttcagg aggtatgcctg ctataactgc ggttagaggtg 420
 gccacattgc caaggactgc aaggagccca agagagagcg agagcaatgc tgctacaact 480
 gtggcaaacc aggccatctg gctgtgtact gcgaccatgc agatgagcag aaatgttatt 540
 cttgtggaga attcggacac attcaaaaag actgcaccaa agtgaagtgc tataggtgtg 600
 gtgaaactgg tcatgttagcc atcaactgc gcaagacaag tgaagtcaac tgttaccgct 660
 gtggcgagtc agggcacctt gcacggaaat gcacaattga ggctacagcc taattatattt 720
 cctttgtcgc cccttccttt tctgattgt gttgttataa ttttctctga atcctcttca 780
 ctggccaaag gttggcagat agaggcaact cccaggccag tgagcttac ttggcggtg 840
 aaaggaggaa aggggtggaa aaaaaccgac ttctgcatt taactacaaa aaaagtttat 900
 gtttagttt gtagaggtgt tatgtataat gttttgtttaa agaaccctt ttccgtgcca 960
 ctggtaata gggattgtatg aatgggaaga gttgagtcag accagtaagc ccgtctggg 1020
 ttcccttgaac atgttcccat gtaggaggtt aaaccaattc tgaagtgtc tatgaacttc 1080
 cataaataac ttaaattta gtataatgt ggtcttggat tgtctgaccc cagtagctat 1140
 taaataacat caagtaacat ctgtatcagg ccctacatag aacatacagt tgagtggag 1200
 taaacaaaaa gataaacatg cgtgttaatg gctgttcag agaaatcgga ataaaagcct 1260
 aaacaggaac aacttcatca cagtgttgc gttggacaca tagatggtga tggcaaagg 1320
 ttagaacaca ttatttcaaa agactaaatc taaaaccatc agtaaacatc aatgctcaga 1380
 gtttagcataa tttggagcta ttcaggattt gcaagaaaat gcattttcac agaaatcaag 1440
 atgttatttt tgtataactat atcaacttaga caactgtgtt tcatttgcgtg taatcagtt 1500
 ttaaaaagtca gatggaaaga gcaactgaag tcctagaaaa tagaaatgtt aatttaaact 1560
 attccaataa agctggagga ggaaggggaa aaaaaaaaaa aaaaaaaaaa 1610

(2) INFORMATION ON SEQ ID NO. 21:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1108 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

ggaggcgcgg ggagagtagg gtgctgtgg ctgagctaga gggtaagct ggccgacagg 60
aggatggcg tatgcaggtg atagactaga gaacaagacc tctgtctccg tagcattctg 120
ggcagcagt ctgaatgcca gaatggataa ccgtttgct acagcatttgc taattgtttg 180
tgtgcttagc ctcatttcca ccatctacat ggcagcctcc attggcacag acttctggta 240
tgaatatcga agtccagttc aagaaaatttgc cagtgatttgc aataaaagca tctggatga 300
attcattagt gatgaggcag atgaaaagac ttataatgttgc gcactttttc gatacaatgg 360
cacagtggga ttgtggagac ggtgtatcac cataccaaa aacatgcatt ggtataggccc 420
accagaaaagg acagagtcatttgc ttgatgtggc cacaatgttgc gtgagttca cactaactga 480
gcagttcatg gagaaaatttgc ttgatcccgaa acccacaat agcgggatttgc atctcccttgc 540
gacctatctt tggcggttgc agttccctttt accttttgc agtttaggtt tgatgtgttgc 600
tggggctttt atcggactttt gtgcttgcatttgc ttatatccca ccattgccac 660
gggcattctc catctcccttgc caggctgttgc tacactggc tcaatgttgc 720
tggaaatttgc ctactccacc agaaaactaga gctcccttgc aatgtatccg gtgaaatttgg 780
atggtccttc tgcctggctt gtgtctctgc tcccttacag ttcatggctt ctgctcttgc 840
catctgggct gctcacacca accggaaaaga gtacacccat atgaaggcat atcgtgtggc 900
atgagcaaga aactgcctgc ttatcaatttgc ccattttat ttttttaaaa taataactgttgc 960
atttccca cctctcaattt gttttat ttaaaatggg ggatataccat ttttattatgttgc 1020
gaaaatccat ttaatttata caccatttgc cactaatac ccccccattat acccccctaaat 1080
attttaagggg ggttacccat aagcgatg 1108

(2) INFORMATION ON SEQ ID NO. 22:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 675 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

agggaaagag agagagaggg ctagacgaac acaatcacat gttttctttg ctgttccctcc 60
 cgggatgggc ctgttttggg gtttggact ctgaacccga gcgggggttcc ttgcgttgc 120
 tttgatcttg gtccttaaat gcctttccccc actcccttcc cgtgggttca ggggccaago 180
 gccccctctt cagagcacgg gcagcacccgt ctccctggacc cctgtgtgcc agctctgca 240
 gacgcagctg gtgggagggg gcatggatt ggaggtggag aagtcaactcc tggtccctcg 300
 aggggggtggg ctgtgtgcct agttcagtgt gactcggggg ttggtgaggg cggacagggtt 360
 tctgaggcct ccctagccct ctttgtaaat tcacacgaga tagtccaggg cttccagcg 420
 cccagcttgg atgataatcc tcgtgtccccc cactctaagg cctcccttggag atttctttgg 480
 ggtctaccac gtcctctgccc tggtctccagg tggtacagga gatgtggttc ctgtccctct 540
 cctgggtccc tagggggccc cagggccctt ccctgttagct ttagctgacc ccatggtggt 600
 gggtgtggg tctgtgcggg tgctcaggtt agcttggggg ctccaggtt aa gcggtcccc 660
 agaacggggg gggag 675

(2) INFORMATION ON SEQ ID NO. 23:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 350 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

agcagagcaa ggttgggttc gtcctctgg cagaacctcg gcttcagga ggtccttgg 60
ccagggaaaca gctgcttctc tggggctgg ggcttctaacttccctggca gcccctcggc 120
actaaccaggctggaaacca gggaaacaaa cggcctggag tgccaaaccc ttctgtct 180
ttttttccag aaaaacgggg qcaatggctg ttgaggagcc catttgggaa gaactggtgc 240
ctctaatggg qcaaatggat tctgcagggg gctgcagttg ggcaggaaa attccttcaa 300
acaagggtt ccacccaaac ccaggccccg gtttcaaata gccagaaaaa 350

(2) INFORMATION ON SEQ ID NO. 24:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 746 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

ccccccctcc tccggctttt tttttttat ttaagaaaat ttatttctac ttctacagca 60
 gaaatacgga aatggtacag gtttggcaa atcatacttt atgaaatgga tcctcatacc120
 acatcctttt taatacaggc acgttataac ataattcctg gatttcaaa atccagccaa180
 cacggatacc tctgctactc tggggcc ttcatacgctg cttccctttt cagacgagct240
 ttctttctta agttcaagct tggtaaagtc tctgtctttt gggcagccctt cttggccctca300
 ataaccatga agatgcattcc taccaccgtc agggcaatca ttagatagct gatcttact360
 cgcatcttgt tctttgcagc atcaaggatc tccaacgaga cagtctctgg gatttcatct420
 tccttttga agcgacatcga ccatatgagg atcttttctt gccaatccgt aggtttgtgt480
 aaaggcactc tggtaaagt ggggatgga gctccgggac ttccctgtgg ttttgtgcaa540
 aatccatcta ttctcttcaa atcagagctt ctggtaagcc ttagagatga ggaaacatct600
 ctttcacata acctaaaaca gttcctgct gccaggcgca gaccgctgag gctccccatg660
 gccacttgct actccgcccga ccagcgcaga acttcgcccgg ggacggtgcc gctggtgagc720
 tcaatgtcac ccagcggtgg agtggg 746

(2) INFORMATION ON SEQ ID NO. 25:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 217 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

agtgtatggc agcaaatgag ggatcataac tctcagttta ttgatgatta ttcatcctca 60
 gatggaggag tttatccgtc agccacttca gtttcgtctt aaaacaggag cccacaggac120
 ccaaggaact attaaggagg accaggaacc tagttttt ctttcaaaaa attggcccta180
 gccaataaaa tgaaggaaaa aatttaggcac cttttttt 217

(2) INFORMATION ON SEQ ID NO. 26:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 392 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vi) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

gcggatccgg cgttctccac tggatctttc caaggctgta cagacatggc ggccggctttt 60
 cggaaaggcgg ctaagtcccg gcagcgggaa cacagagac gaagcagtga ctaccgtaaa120
 aaacaagaat acctcaaaggc ttttcggaaag aaggctcttgg aaaaaaaatcc agatgaattc180
 tactacaaaaa tgactcgggt taaactccag ggtggagtac atattattaa ggagactaag240
 gaagaagtaa ccccaagaaca actaaagctg atgagaactt caggacgtca aatatatagg300
 aaggaaagag ggtgcagaag ctaagaaaaat cgaagactaa aatcaggggcc catctgcggg360
 ttgcaggggaa ggcaggaaaaa gtttgggg 392

(2) INFORMATION ON SEQ ID NO. 27:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1796 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:
(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

cggctcgaac gtatttagttg ttcttaattt ttttccagt aaaatatgga tcttttaaga 60
agaattttag aagcaaacaa ttacatgtca tgtcaagggg gtagcagatt ccattcgaaa 120
tcaatattgc cacaataccc agggattaat gctgccacag gggggcaatc tttatggc 180
ttacccctta ccccttcctt gttctgcctc tttaactcag ttaagttgtt ctgttggaa 240
cctgaaaag aacccaaaga aacactgagt ggacagggttcc atttctggaa tgcagaaaaac 300
attttaaagg ctagattttt agaatattct caactagcat tcttcattt gatttgaagg 360
ggaaattaac tattataatc tcttgaatcc aaaactggat attaagaact ttccccccta 420
ctaagtttaa gactttgtc atgtggtag tcaaataaga ccattttgtat tgtaaaccat 480
aaaatagttc agcaagtagc ccacagtttcc ggcctaaacag cagacttgct gttttcactt 540
ggtatccctgg agttgggttg ctaaccttaa ttctatgtat gtttctaaa atgaaacttg 600
ataaagttaga ccaccagctg caccgtgtt tctgtaaaag tattgttagt aagtggccaa 660
gagacttgag gaaaatacag atttttgtt taccttggc ttgttttaag tcttaaaaaa 720
ttaaagataa cattataatg tagaatacag atgggacata gtccttgtaa gttcccttg 780
aaaatgtttt aaatatttag gaagctttta aaagacacta aattgtactc taaaagacac 840
taaattgtac taattgtaca aaggtcaagc caattttatg aaacagtccct acagagtaat 900
atatgtatg cagtgtaaag aggaaaatac tcacatctaa cattatggta ataacattta 960
gcctctttagg agttggagca gggggatggg taattacaga tttgcagact atagaaagag 1020
tttcattttt ttgtgacccc acagagtctc aaatttttat ttcaactacct gctagagcct 1080
actgtgaaat cactgctcca tatttgcag tggagggaaat gggcatagag tagagaatag 1140
cttcatatgt ttacacgtt gcataacta cacacatgtc atgcgtttat ggcaggtagc 1200
tggtatttt tccccaaatg aataatgtt aagtatgggt ctcatcattc ccatacacag 1260
aaacacaaaaa cactttgatc ataaactttt ttcttcagaa gccaaactaa cttgcagaat 1320
aatagagcca ctggtttaat gttccctcaa gataggtttt agtgtaaagct agtattctgt 1380
gtgttcgttag aatgattca atacctgcag ctggtaattt aggaattgtt tttgttgct 1440
tttttatattt agatgaggtt caaaaattttt aatgcttagtc agtatgcacc accacagga 1500
agtttagatcc cattagcaact tggaaactaca gctttggaaa cttaggctaa gttaaatttgg 1560
atttgttact tgattcacct actgaccttt tcttttggaaat gaaatgttca tcagcataat 1620
gagcttaatgt tcacatgtt tttgttcaat gacccctttt tggccctttt tgggacagag 1680
aggtacttcc tggatctttttaatgacagg ttactgtttt gccttattgc ttaacttaat 1740
gtatgtaaat aaagcagaca aagcttgaaa aaaaaaaaaa aaaaaaaaaa tcgacg 1796

(2) INFORMATION ON SEQ ID NO. 29:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 2927 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:
(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

gaagaaaaag aggagggaaa aggtagggag aaataaaaggg aggagagaag cacagtgaaa 60
 gaaaaaaaaa gtcccttttc gacatcacat tcctgtgtt tccctcagcc tggaaaaacat 120
 attaatccca gtgcttttac gcccggaaac aaagagacta agccagacta tgggggaaag 180
 ggagataaga aggatcctgg aactttaaag agggaaagag tgagattcag aaatcgccag 240
 gactggactt taagggacgt cctgtgtcag cacaaggac tggcacacac agacacacga 300
 gaccgaggag aaactgcaga caaatggaga tacaagact tagaaggaca gtccttca 360
 cctcatccta cttgtccaga aggtaaaaag acacagccag aaagaaaaagg catcggtca 420
 gctctcagat caggacaggc tggatctg tggcggtact ctgaaaagctg gagctgcagc 480
 acacccttt tggatgtc accctcggt aagagagaga gggctggag gaaaagtat 540
 tcatcttaga aactgtcctg ggaaccaaac ttctgatttc ttttgcacc ctctgcattc 600
 catctctatg agccaccatt ggattacaca atgacatgga gaatggacc ccgttctact 660
 atgctgttgg ccatgtggc agtgtgtgga tcagaaccccc accccccatgc cactattaga 720
 ggcagccacg gaggacggaa agtgccttgc gtttctccgg acagcagtag gccagctcg 780
 tttctgaggc acactggggag gtctcgccg attgagagat ccactctgg aacccaaac 840
 cttcagcctc tccagagaag gaggagtgtg cccgtgtga gactagctcg cccaaacagag 900
 ccgcccagccc gtcggacat caatggggcc gccgtgagac ctgagcaag accagcagcc 960
 aggggtcttc cgcgtgagat gatcagagat gagggtctt cagctcggtc aagaatgtg 1020
 cgtttccctt cgggggtccag ctctccaaac atccttgcca gctttgcagg gaagaacaga 1080
 gtatgggtca tctcagcccc tcatcgctcg gaaggctact accgcctcat gatgaggctg 1140
 ctgaaggacg atgtgtactg tgagctggc gagaggcaca tccaaacagat tggctcttc 1200
 caccaggcag gtgagggagg aggcaagggtg agaaggatca ccagcggagg ccagatcc 1260
 gagcagcccc tggacccttag cctcatccct aagctgtatga gcttctgaa gctggagaag 1320
 ggcaagtttgc gcatgggtgt gctgaagaag acgctgcagg tggaggagcg ctatccat 1380
 cccgttaggc tggaaaggcat gtacgggtc atcgaccaag gcccatecg taggatcgag 1440
 aagatcaggc agaagggtt tggccagaaa tggtaaggct ctggtgtaga gggccagg 1500
 gtggccggagg ggaatgacgg tggagggggc gcaggaaaggc caagcctggg cagcgagaag 1560
 aagaaaagagg acccaaggag agcacaagtc ccaccaacca gagagagtgc ggtgaagg 1620
 ctgagaaaaac tggccggccac tgcaccaact ttggcccaac ctccctcaac ccccaagg 1680
 accacccttc ctccctggcc acccacaaca gtaactcggt ccacgtcccg ggcggtaaca 1740
 gttgctgcaa gacctatgac caccactgcc ttcccacca cgcagaggcc ctggacccc 1800
 tcaccctccc acaggccccca tacaaccact gaggtatca ctgccaggag accctcagtt 1860
 tcagagaatc tttacccttcc atccccggaa gatcagcaca gggagaggcc acagacaacc 1920
 aggagggccca gcaaggccac cagcttggag agcttcacaa atggcccttc caccaccatc 1980
 tcagaaccca gcacaaggcc tgctggccca ggcgttcc gggacaaaggc catggacagg 2040
 cggaaacatg gccaccggaga cccaaatgtg gtggccaggtc ctcccaagggc agcaaagg 2100
 aaacctccca aaaagaaggc ccaggacaaa atttttagta atgagtatg gggagaagtat 2160
 gacctcagcc ggcctactgc ctctcagctg gaggacggc tgcaagg 2220
 cttaaaaaaaag caaaggatgc taaaaagcat gaaaagctt agaaaccaga gaaggagaag 2280
 aaaaaaaaaaaga tgaagaatga gaacgcagac aagttactta agagtggaaa gcaaatgaag 2340

 aagtctgaga aaaagagcaa gcaagagaaa gagaagagca agaagaaaaa aggaggtaaa 2400
 acagaacagg atggctatca gaaacccacc aacaaacact tcacgcagag tcccaagaag 2460
 tcagtggccg acctgctgg gtccttgc ggcacacgaa gactccttct gatcactgt 2520
 cccaaaggctg agaacaatgt gatgtgca caacgtgt aatatctgg aagttctgc 2580
 aagatggcta ccaggaaaat ctctgtgtc accatcttc gcccgttca caacagcacc 2640
 atgaaaatcg accactttca gctagataat gagaagccca tgcgagttgtt ggatgtatg 2700
 gacttggtag accagcgtt catcagcggc ctgaggaaag agtacggat gacctacaat 2760
 gacttcttca tggctcaac agatgtggat ctgagagtca agcaatacta tgaggtacca 2820
 ataacaatga agtctgttt tgatctgtc gatactttcc agtcccgaat caaagatatg 2880
 gagaaccaga agaggggggt ttttttgc gggggaaaaa cgcccccc 2927

(2) INFORMATION ON SEQ ID NO. 30:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 743 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

tccgtggggc tttaaaaat ggttgtgggt gtgtgggtt tttttaggtg ggagaggatg 60
 tgcggaaatc ttttccaggc aaatgggttc gctgcagagg taaggatgtg ttcctgtatc120
 gatctgcaga caccgcagaag gtgggtgcac actgcgtctg tgggggtgcc aagggattcg180
 agacctccaa catacttgc tgaagctcg tccgctgccc atggcccctc tgccaaagcct240
 gtgtgcgatg cccttggtgc tttagtgc aaagccttagg ctcaagaagca cagcagcgcc300
 atctttccgt ttcaggggtt gtgatgaagg ccaaggaaaa acatttatct ttactattt360
 acctacgtat aaagtttttag ttcattgggt gtgcgaaaca cccttttat cactttaaa420
 tttgcacttt attttttttc ttccatgtt gttctctgga catttggggta tgtgagtgtt480
 agagctggtg agagaggagt caggcggcct tcccacggat ggtcctggcc tccacctgccc540
 ctctcttccc tgcctgatca ccgccttcca atttgcctt cagagaactt aagtcaagga600
 gagttgaaat tcacaggcga gggcacatct ttatattatt tcattatgtt ggccaacaga660
 acttgattgt aaataataat aaagaaatct gttatataact ttcaaaaatc caaaaaaaaaag720
 tagggagggt aaaaaaaagg gcg 743

(2) INFORMATION ON SEQ ID NO. 31:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1667 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

agagccaata gcatgggtt tacaaggca a gatagtcat tcattcaaca catattcata 60
 gagctccttc tctgtgccag acactgttct ggaagatagc tagatgaaaa tctttgact 120
 cacagagctt acatgccagt gagtgaagat cgatgataaa taaagcaat gcatcatatg 180
 ttcacatggataa gaaaaat gaagccggga aggaggacaa ggcccatggg 240
 tgggtgttga ggtttttaaa gtgtggtcag gaaaggcccc actgataagg taacatgg 300
 gcaagtctga aaaaggcaag gggatcttg gggctaactt cgggatccct gcacittatg 360
 taagaatgtt aacctggagt ctcatttaag aatgatcagc aatacgttta gaacatatg 420
 actgaatgaa atggacattt tttcttaatt tacgtataaa tccatcatatg tatacataaa 480
 gttctgtatgc attaataaaa gcagccaaat agggccaaag agaaaaataa caggactctg 540
 tactggaccc aactttatca ttaattatgt aatattttcc tcatttctt actgctgcca 600
 ttttcctcac cagtattcca gagatggtca tagctcatta ctctaccacc aagaacctaa 660
 aaggaatttt aatacagcag aattggccctc agtgaagagc ttaaaattgt ttcctcgta 720
 gaactggact attgatcatt accacgtgac gttgctcta ttactttctg ttcccaatgt 780
 ctttcttagtg gtttggaaaat gttaaaacat ccctaaaatc taaatcatat aatcagaatt 840
 ctatagtgtc ccactctatc tgtaaagatc atttggaaaa cttagactc tattatgg 900
 aaaaggaata tttatttagcc atatgcagaa ttctaatga tgatattgtt cagcttctaa 960
 ttcacttttc agatcagtgt ttgaaatgac aattatcgt gttggattt gttccaaacta 1020
 ctgatttac aaaaatgtac atttagagaa gttaaaaga aacagtgaga aatgtaaaca 1080
 ttcaaaatgtt taatttgcattc ttcattttgtt gggataatt atcagagaca tgcaactgaa 1140
 aatgtctcac ctttcatctt tttttcttaa ttcataaaatg tattttgtt aatttgcatt 1200
 gaccctccata gtcattctca actggggccgg tgctgtcacc gaatgggtt tgagagtgtt 1260
 ggggcttaggg cacattttg gttgtcacag caactgggtt ggcattttgtt gcccagtgc 1320
 aggaatagta acattatgaa tgccaggac agtgtgctca gtaaaatgtt ccatccaaa 1380
 gggggcaggcc acgggtgctc acgcctgtaa tcccagcact ttggggaggcc aagggtggcg 1440
 gatcacctga tgcagggggt tccgagaccacg cctggccaaac atggtaaac cctgttgct 1500
 ctaaaaatgtt aaaaattggc tgggtgtgtt gtcacatgac agtaacccca gctactagg 1560
 aggctgaggc aggagaatca cttgaacccg ggaggcagag gttgcagtga gctgagattg 1620
 caccactaca ctccagcctg gatgacagag tgagacttca tctcaaa 1667

(2) INFORMATION ON SEQ ID NO. 32:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 249 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:
(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

cgtggtaggc acttcatca gtttactga ttgaaaacat tggactgt ggcttctatc 60
agagtgtcta ctttacag ctctgaccct acctcattt aattgctgct ttaatctac120
gggggctgag aatttgtgaa accagtgtt ttagaagtgt atataatctg aatcaataag180
ctctgaatgg gggacaagaa acgctttt agcacaaaaga tgcattggact tcatgacagc240
tcttttggt 249

(2) INFORMATION ON SEQ ID NO. 33:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 1246 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:
(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

aatggaaagg	taattaccgg	ggcccaccc	ttt	gagacggaaa	aaaattggga	aaacgaaact	60
aaaaatggtt	ggggtaatt	tctacccaaa	gtccagccgt	ggggctgc	ctggcacaga	120	
atactaaact	gagtgtgact	atttcaatg	caacaaatga	aaaaacaaaa	tgtccctgtt	180	
taaagcactc	agtagaggc	tgtgaaaact	atttttttt	cctttaagac	atgcactctt	240	
gagtcctaca	gttaactgagt	gtttgtttag	acagcacaag	aagggggtgag	agtgcgtctc	300	
ctagcctaa	tgtgggaggg	tagttcagt	cactcatcgg	ctttcattat	tgtgcagaaa	360	
tattagaaaa	cctcattgtat	caattttatg	tat	tcagcaaatt	gaaattttcc	420	
ataattatca	ttaatttgt	accacatcca	gtgtcatgt	tactccttag	agttcaagat	480	
aattcttaaa	ataaaaaaa	aactccatag	tactaatttt	gtttctttag	atagttgcg	540	
tttgcatttta	gtgcgttgcaa	ttgttattaaa	gtcaaaagct	gat	gcatacacaa	600	
aatgcact	tttttttttta	tttcatacc	ataattttaa	gattgatatg	ctaaaaacaa	660	
tttgcacagc	actaaagcat	gagctacttt	catctaaacc	tgaaaaata	tgaaagattt	720	
ttatattttt	tcactggaa	gaaattcttc	ctggatgaaa	ttacaaatat	gtgtagaata	780	
tat	tttaataaa	aagacttata	aaatacctaa	ctacaggact	atggcgcgt	840	
agtatata	acaatattcc	atataaataa	gtttagcctt	tataaaaatg	aagttgcagg	900	
ctgacattac	attctgtact	tactaagtgt	caacagccct	tacaaaacatt	aaatgtaaat	960	
ggtttcaa	at	aatcatgtt	tttattcat	tgttaatgct	1020		
tttgcatttta	ggctttatata	gcagtagatc	tacgaaaata	ttgttcatac	tgatcagaat	1080	
taaatttgc	tagagcagag	ttttaaaatg	aatgtaaata	gcactaaacg	ttttcttct	1140	
gcaacctgt	cttacagatt	cttcctgtaa	actaaataaa	aaaaaaatg	tagtgc	1200	
aaaaaaaaaa	aaaaaaaaaaq	acggqaaqaaq	qagaaagagg	gcgtgg		1246	

(2) INFORMATION ON SEQ ID NO. 34:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 215 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

gggaaggcatt	ttggatataat	tgcaggaaat	ctcttcctgg	agtcaaaagt	tcccaagagg	60
tgctgtat	ttaaagaaatg	gagtttattt	aaataatagt	taagcttgtg	cccatgttgg	120
ccggggcaact	tttttcaatg	gtgcatttta	gaagaagtgt	tttcatctgg	tcaatttaagl	180
qaaataaaac	taggaaatgg	agaggggggg	agaga			215

(2) INFORMATION ON SEQ ID NO. 35:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 734 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

gctgccgggg gcctggggct cggcgtcggt cccccggggga tggggagagc tggcagcatg 60
 tcggccgagc tggggagtcgg gtgcgcattg cgggcgggtga acggagcgcgt gcagcaggct 120
 gtggcgccgc ggccgcggga tctcccgagcc atccagcccc ggctagtgcc ggtcagcaaa 180
 accaaacctg cagacatggt gatcgaggcc tatggacatg ggcagcgcac ttttggcgag 240
 aactacgttc aggaactgct agaaaaaagca tcaaataccca aaattctgtc tttgtgttct 300
 gagatcaaat ggcacattcat tggccaccta cagaaacaaa atgtcaacaa attgatggct 360
 gtccccaaatc tcttcatgct gaaaacagtg gattctgtga agttggcaga caaagtgaac 420
 agttcctggc agagaaaagg ttctcctgaa aggttaaagg ttatggtcca gattaacacc 480
 agcggagaag agagtaaaca tggccattcca ctttcagaga ccatagccat cgtggagcac 540
 ataaacgcca agtgtcctaa cctggagttt gtggggctga tgaccatagg aagctttggg 600
 catgatctta gtcaaggacc aaatccagac ttccagctgt tattgtcgct cccggaagag 660
 actgtggtaa aaagctgaac atccctgctg aacaggttga gctgatcatg ggcatgtccg 720
 734
 tctgtaaact gcaa

(2) INFORMATION ON SEQ ID NO. 36:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 314 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

gctgctgggg agccactgaa ccaaccggag acccgctggc cccacgtgaa gcagctgtcc 60
tggtgtggag gtacagagct agaccagcac tggcccttcc agcccccctgg tagcctctgc 120
tgcaactgaa ctggcagctt ttgccgctgc ctttagctct gcatgtatgc gcctgaagg 180
ttctgcctct ctgttttggaa atcgcccttc cctccatg tttggggacc tgcaagggtg 240
tgaggcacgt gagggcacatcg ccatgcgtat tttacaggcc tctttctctg gactgttttc 300
aaaggatcg cttt 314

(2) INFORMATION ON SEQ ID NO. 37:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1839 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

gcgggcgagg gcgagcaac agagcgccg ggagtaaggc ggagttagag gaggagctt 60
 atggaagcgt gcgagaaggc gcgtaactga tttggaaacc agaggaaagg cgctgtttc 120
 accgaattag aatcgccggaa aaatagagaa gagtttggta gaaggtctcg cgagatcgag 180
 ttagtacggc tcgccaagtt ggagcgctc cgcgatagac acagcaacta ttcagctgcg 240
 aggggacggg agaggtggta agcactctcg cgagattga aggagcggcg gaggccagag 300
 ggaggagagg accggaagtc cttcatctca agcatccat gctgaaacgg gcctgatttt 360
 ctctaccggaa agcccttttc cagaggctgg gaacacggcc cacctagcag gaagtcccac 420
 ctcttgcgc tccgcccacc tttccgaagt ttttctgtca cctgtgttag gctccgtccc 480
 ctttccgcgt tttatccccg taccagaaaa ggatacattt agtgcctccc acccaagctcc 540
 actaaacggc cttcccgctt cctgtggttt tggccgctgt gctgtggggg gcgcccccg 600
 cccgggggct cattcgagcg acctcgacc acaatggccag catggacttt gcagaccttc 660
 cagctctgtt tggggctacc ttgagccagg agggcctcca ggggttcctt gtggaggctc 720
 acccagacaa tgcctgcagc cccattggcc caccaccccc agggggggc aatgggtcag 780
 tctttattgc gctgcttcga agattcgact gcaacttta cctcaagggtc ctaaatgccc 840
 agaaggctgg atatggtgcc gctgttagtac acaatgtgaa ttccaatgaa cttctgaaca 900
 tgggtggaa tagtgaggaa atccagcagc agatctggat cccgtctgtt tttattgggg 960
 agagaagctc cgagtaacctg cgtggccctt ttgtctacga gaagggggct cgggtgcttc 1020
 tgggtccaga caataccttc cccttgggtt attacctcat cccttcaca gggattgtgg 1080
 gactgctgg tttggccatg ggagcgttaa tgatagctcg ttgtatccag caccggaaac 1140
 ggctccagcg gaatcgactt accaaagagc aactgaaaca gattcctaca catgactatc 1200
 agaaggggaga ccagtatgtat gtcgtgtccca tttgcttgaa tgaatatgag gatggggac 1260
 agctgcgggt actccccctgt gctcatgcct accacagccg ctgcgtggac ccctggctca 1320
 ctcagaccccg gaagacactgc cccatttgcg agcagcctgt tcatacggggt cctggggacg 1380
 aagaccaaga ggaagaaaact caagggcaag aggagggtga tgaagggggag ccaaggacc 1440
 accctgcctc agaaaggacc ccactttgg gttctagccc cactttccc acctccctt 1500
 gttcccttagc cccagctccc ctgtttttc ctggcccttc aacagatccc ccactgtccc 1560
 ctccctcttc ccctgttatac ctggtctaat aaccccccac acatacacct ctgggtgacct 1620
 atttgacacag accgtcgatc tccctccag tttctgaggg atagggggaca ttccatccc 1680
 agcttctccc ttacccacac ctatcctttt gaggggctt ggggtggggc tggggcaacg 1740
 agagggactg ggtcttcaact ttttggctt aaaaaattgt ttctttgtgg actaaaaaa 1800
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1839

(2) INFORMATION ON SEQ ID NO. 38:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1931 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

cagccgcgc ccatccctct ttgtgtgctt tggaaagccg cgagactggg ggtggctaca 60
 gttgggttg ggggcttagg cgagggacgt taccgggaag ttgcaggcgg gaggactctt 120
 ccccatccag tcacctgaca ggtcacaaac atgtcagaca aaagtgaatt aaaggctgag 180
 ttggAACGTA agaagcagcg actggccaa atcagagagg aaaagaagag aaaagaagaa 240
 gaaaggaaaa aaaaagaaac agaccagaag aaggaagctg ttgctctgt gcaagaagaa 300
 tcagatcttg aaaaaaaaaaag gagagaagct gaagcattgc ttcaaagcat ggggctaact 360
 ccagaatccc ccattgtccc tcctcctatg tctccatcct ccaaattctgt gagcaactcca 420
 agtgaagctg gaagccaaga ctctggagat ggccgggtgg gatctagaccc aggacactatt 480
 aaacttggaa tggctaaaat cacgcaagtc gactttcctc ctcgagaaat tgtcacgtat 540
 acaaaggaaa ctcagactcc agttatggct caacccaaag aagatgaaga ggaagatgat 600
 gatgtatggg ctcctaaacc acctattgaa cctgaagaag agaaaacttt aaagaaagat 660
 gagaaaaatg atagtaaagc tccccctcat gagctgactg aagaagaaaa gcaacaaatc 720
 ttgcactctg aggaattttt aagtttcttt gaccattcta caagaatttg agaaagagct 780
 ctttctgagc agattaacat cttctttgac tatagtggga gagatttggg agacaaagaa 840
 ggagagattc aagcaggtgc taaactgtca ttaaatcgac aatttttgg cgaacgttgg 900
 tcaaagcatc gggtggttag ttgtttggat tggcatctc agtacccgg gttactcgtg 960
 gttcttata acaacaatga agatgcccct catgagctg atgggtggc cttgtatgg 1020
 aatatgaaat aaaaaaaaaac taccggagag tatgtgtttc actgccagtc agctgtatg 1080
 tctgccacat ttgcaaaatt tcattccaaat cttgttggat gtggatcata ttcaggccaa 1140
 atttgtcttt gggataaccg tagaataaa agaactccag tccaaagaac tccactgtca 1200
 gcagctgcac acacacaccc tttatattgt taaaatgttg ttggaaacaca aaatgtca 1260
 aatctgatta gcatctctac tttatggaaa atttgttcat ggagtctgg catgcttcc 1320
 catccacagg atagcatgga gttgggtcat aaacagtcaa aagcagttagc tttgttgg 1380
 atgtccttcc ctgttggaga tttgttggat ggtgttgg ggtgttgg aagttctgtg 1440
 tacacagcat gcccacatgg cagcaaagct ggaatcaatg agatgttgg ggggcatca 1500
 ggaccaatca ctggcatcca ttgtcatgca gctgttggag cagtagactt ctcacatctt 1560
 tttgtcactt catcggttga ctggacagta aagcttggg caactaagaa taacaaggct 1620
 ttgtattcat ttgttggat tttatgttcat gtttattgtt ttatgtggc acctaccac 1680
 ccagccctgt ttgcctgtgt ggtgttgg ggggatggg atttgtggaa tctcaataat 1740
 gacacagagg taccactgc cagcatttct gtggagggta atccgtct taatcgttg 1800
 agatggaccc attctggaa gggaggtgg tttgttgg ggtgttgg aatgtatggat tggcagcgg 1860
 tattttggat ttgttggagg agcagtttgc tttgttggat ggtgttgg aatgtatggat tggcagcgg 1920
 tggcccgacc c 1931

(2) INFORMATION ON SEQ ID NO. 39:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 294 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:
(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

agttaccatt gcctttctg tctcggtcg gttttgggtt gctgaaaacta gtccaaaaca 60
ggaaaatttaa cagacagcca cagccaaaga gtgtcatgtg aattacaaga aatagagccc120
atttagggaa agatagaact agaaaaggctt ttcattataa ttccatgttg aacaatttag180
tcatagcttc ttatcttgg a gaaaggacac aattcaaagg ggcagtaagg attttgtaaa240
acgtggcatac cataatttac tatggagcaa gtgcccacat ctctaggaca ttaa 294

(2) INFORMATION ON SEQ ID NO. 40:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 882 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

tttttttttc tcattaacaa agcagtcaat tccctttatt tttaaaattt tatgtacaca 60
 tatgaatgat ctgtataatg tacattcaat atagaaagct ttatataattt gatagtgtat120
 agaacatttc acaattacac tcatctttta cataacatct tgacatccat tttaaattt180
 ttttgcacaa gctccctttc attcaatttg gtaaagccag ttatacatac taatgtgtac240
 tgtgagctt cagaaggtta atgattgagg atgcgcgtga agggtgcagg gacaaaacct300
 aatagtctt gatgggggg ggaggatggc cacgcagact tgatgcagga gagggaaata360
 ttcttcctg gggaaaagtg acttagccca attttgcgttg actgttagctc aaccctacag420
 tcattgtactgt tcaaaaaaaaaa aattacaaaaa actaggaaga aagttttgtc ttttgattc480
 acagttttgt aaacagatataaaggaaacaa atgtgcattac atacaccaag aaaaaaaaaa540
 ttcttgcgtt cccacttatg ttgatccaca gagtgcttc ttataatgtg atacaattag600
 gatcaactgac ttttttcctt aaaaatataat ttatagaaaa aggaataaca ctgtcatgaa660
 accaggagaa aggcaagtaag agtttgcctc aacgtatcag ctggaggaat gtggacttgg720
 cactggcctt tcagcgttt ttgtctctcg tgaatatttc aagtctgata gccaaaggctcg780
 cctgcctcat ggtctacagg aggtggcagg ttagacatga ctgatgtaga tgtactgcgg840
 taaggttagcc agcaactcca gtcctgcctt cagagagcta ca 882

(2) INFORMATION ON SEQ ID NO. 43:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 934 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

ctcgccgg acacagggag cagcgagcac gcgttcccg caacccgata ccatggaca 60
 ggatttctcc gcctcagccc aacggggagg gctagttgca catagtgatt tagatgaaagl20
 agctattgaa gctttaaaag aattcaatga agacggtgca ttggcagttc ttcaacagtt180
 taaagacagt gatctcttc atgttcagaa caaaagtgc ttttatgtg gagtcatgaa240
 gacttacagg cagagagaaa aacaaggac caaagttagca gattcttagta aaggaccaga300
 tgaggcaaaa attaaggcac tcttggaaag aacaggctac acacttgatg tgaccactgg360
 acagaggaag tatggaggac cacctccaga ttccgtttat tcaggtcage agccttctgt420
 tggcactgag atatttgg gaaagatccc aagagatcta tttgaggatg aacttggcc480
 attattttag aagactggac ctatatggga tcttcgtcta atgatggatc cactcaactgg540
 tctcaataga ggttatgcgt ttgtcacttt ttgtacaaaa gaagcagctc aggaggctgt600
 taaactgtat aataatcatg aaattcgttc tggaaaacat attgggtgtct gcatctcagt660
 tgccaaacaat aggcttttg tggcgtctat tcctaagagt aaaaccaagg aacagattct720
 tgaagaattt agcaaagtaa cagagggctc tacagacgctc attttataacc accaaccgga780
 tgacaagaaa aaaaacagag gctttgcct tcttgaatat gaagatcaca aaacagctgc840
 ccaggcaagg cgtagttaa ttgagttgta aagtcaaggt ctggggggaa tgttggaaact900
 gtttgaattt ggggtgttcc gcttaggaag gtcc 934

(2) INFORMATION ON SEQ ID NO. 44:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 231 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

ctcgccgg tcaattatga gttcctttat ttattggtga gaaagattag caagtatgac 60
 gtatgcaagg aatagaagtt atgtaccgag tggtaaagg ttggggggat atggagatgg120
 atgagagggg gctgtctggg aaggctttgc ttcacttgaa ttagagtagg gttgcgtgag180
 gaaataggtg tgtagaatga gaatgagggt catgacagcc tcctacaaaaa c 231

(2) INFORMATION ON SEQ ID NO. 46:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 240 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

cgatcacgtt ttcacatgat gtcacgctc agggcgcttc aattatccct ccccacaaaag 60
atagggtggcg cgtgttcag ggtctctcg tctctcccta cagaaaagaa aaagaaaaaa120
atgtcattag aagaggcgta acacgtcagt ccgtccccag gtttgtgtt cctggagtgg180
ccgaaagaga tcagttctaa cctgctctgc aggaataacg gtcctgcctc ccgacactct240

(2) INFORMATION ON SEQ ID NO. 47:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 228 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

agagcagatc agaggoaggg ggaaaagcac gcagagggag gagctgaaga gctgagaccc 60
ggagccaggg acagcttaat gaagacaaac tgaaggggaa actgagatgc ttagaaagcc120
cagctataca actctaccca gaaatacttc ccttagggaa tgtaaaaagt actactggag180
atggaagagc agaaaaacag ctatggcag aaggccaagg ggtgatag 228

(2) INFORMATION ON SEQ ID NO. 48:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1229 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

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aaaaaaaaaa aaaaaagagt taatctagga gataatgaat ggcctagtag 60
atggcccac aagctcttga cttctgtcct tggggaaagc cattttgtta accacactag 120
ttagatttac atgatgctta atggagaaca gagaagatct tggcaaaaa ggtgtattaa 180
atatttgtgc tggttctgtta tgagatttag aagctttcc cacccttcac ccctattcc 240
tataaggata tccagagaag ccaaactgtt ctgtgggtt gggaaatggc atttccccggg 300
aaaatgcac tggatcgatg actaaacctg gccccttct ctgggctgtt gtgaagccgc 360
attttcaacgc tggctggcag tggctgaga gcctcgaatg ctctgcggcg tagtgcctt 420
ctggccctgccc tgacgatgtt tcgaaaaagat gagagtgaag gagactttgt gcagcagagaa 480
acgggttaggt gaggtgttgg gcagttgtgg gaacttctgtt gaggattaca gagtggtaga 540
atccgttaaga actctgattt ggacttcgcg ttggtggaaac tggctgccta tacctgcctg 600
tgggtgtgca agtgtgcagg ttcccttgc tggatgtgtt cgtgtggaa cctgtgtttt 660
tcataattttt cttcatttca caaaggctt ttttgaagca gtggcagtat gcctttgttt 720
caagaacaca tggaaattctt ttaacaccag attagtggtt taccctaaat gaacggttct 780
agccctctat taagaataa agggaccata agcattttgg ctgcttgcgtt ctgtgtgtt 840
ctacttacaa gagtcttgaa aattatacag aactttgcct tctttttta atgtcttcca 900
caatgttgtg actgattata accctgtttc ccctcagaga agagctatgg ctcagggatc 960
tgggttgact ctggcattta gtggctttgtt gaaggaaaga aaccattaaa tgacctgac 1020
aaaactgact catgtcttta aagttagttga agccactttt aggaatgtt ctctcggtt 1080
cttttgtcta attctaattgg gcttaaagcc aagaaaacca tagtataaat ctttttgtt 1140
taccctatgg ctatgtttt aaatggcag ttccgttgc gataaagtat ccagtca 1200
caqqtttccq tggaaagggtt ttattgggg 1229

```

(2) INFORMATION ON SEQ ID NO. 50:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 231 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vi) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

gaggccggga	gtgaaacccc	ctctttgag	aagggtgcct	gactcagaga	cacagaaaacg	60
ggtccaggga	tggggagaga	tgtggagtga	ggaaagggtt	gcatttgaga	aaggaagtcc	120
gagaacacac	tgggacattt	taacacattt	gaaccatctt	ctgatagaaa	gtgttggcc	180
tcctaataat	gggaggtca	ggccagggtcc	tcgggcata	ggagagggtc	c	231

(2) INFORMATION ON SEQ ID NO. 51:

(i) SEQUENCE CHARACTERISTIC

- (A) LENGTH: 1340 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

tttggcatca ttacaaatcatagaatta ctgtgaaggc cttcttagtt gagatgttgg 60
ggtatttggg attctaattttaaacccccag aagaaggtaa ttagcttgtt atttatttaa 120
aaccatatttgcctttact tataatctggt agaattccag tgatcatcct aataaggat 180
atttcagaat aatttttttctctttagaa taacttagaa tcagatgcta taagggctcc 240
taggagcagt gtgaaatttcgtaaagata aatttgaatgttgaaccaa gtttatatta 300
aaccaagagg ccatttccaa tatgattttt tggattttttaaacttgta agtccctaag 360
agattacatg cttagggcttg agtcatttcttattgttagata atgatggccc acacagtac 420
cttcaactat ccacataagcttaggcttccgctttggca cggacagtgtt gaccaagata 480
tttccagagt aaataacccacacaacaccccttggtaatttcttcttctttaagctccag 540
gaagcgaag cagaaggact ctttcagac tgccctctgt agcctacatt gcagcttcc 600
aaaacaggca gctagactggaaagccca tgggtgacc ccatatttttctgagggttct 660
tctttccat ggtgttacttattatcaga aagtaaatttcaagaaaacagg tcttgcctt 720
agcagacaag aaccacacca gtttcttgcgtaaaggtaacgg atacatttggg attcaggagt 780
gacacagagg tccagccccaaacttgcgaaattttgtt tgaacactga gcagatgcct 840
cctccctgcc accccatcaca ctagtttaggg ctggccatgatctatgcc agagtcaactc 900
ctgcagctg ctagggatgg gccttcttccactctcg cacacatccc agtctagttct 960
ttgccttcac agagtccctcc ttgacacccctgacttaatg atagttgtcttggagta 1020
gaattgatca ggtttaagttatccctgcctca ggttgggcat agtggctcat gcctgtaaatc 1080
tcagcacttt gggaaagccaa agtggggaggttgcttgagccaggagtttcaaccatcc 1140
tggcaacag agggagacccctgtcttacc aaaaaaaaaaaaaaaa aaaaaaaaaaaa aaagttaaaa 1200
aaacaatttag ctggacctgg tggtgacacatcagtaggtcttggatcagccatc 1260
acatgggaga ctgaagatgc agtgagccat gaatcagccatcgcacacca gatcgttggaa 1320
aaaagtggaa ccctatcaca 1340

(2) INFORMATION ON SEQ ID NO. 52:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 226 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

gccagatttc cggggttttg cgggccccgc gatgtttcc agaggtttc aagtggaaag 60
aggagagcga caaggtaaa atgccccgtg ccggggcgtc cagcggagtc ctgccagctg120
tccggcggtg gggtggacgt ctgatttatg aagtgccca tccacctatac tgagtacctg180
acttgtgagg actgacaact acagcatcag gtacaaagtt gttctt 226

(2) INFORMATION ON SEQ ID NO. 53:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 611 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

gcagctgcag cggcagcagc ggcagcagag gcagcagcag tagccaccac tccgcccagg 60
 ccccaacccc ggctcggcct ccccaggccc cggccgtgcc gcagtcatgg ctgctgtgg 120
 ggtggacgaa cgctcgccctc tgctgtcagc atcccactcc ggaaaatgtca ctcccaccgc 180
 cccaccgtac ttgcaagaaa gcagccccag agcggagtcc cacctccata tacagccatt 240
 gccagtccag acgcacgtgg tattccagta ataaactgcc gtgtgtgccca atcactaattc 300
 aatttggatg gcaagcttca ccagcatgtg gttaagtgc cagtttgc aa tgaagctacg 360
 ccaatcaaaa acccccccaac aggcaagaaa tatgttagat gcccattgtaa ttgtcttctc 420
 atttgttaagg acacatctcg gcgaatagga tgcccaagac ccaactgttag acggataatt 480
 aacccctggcc cagtaatgct tatttctgaa ggaacaacca gctcaggctg cattgccc 540
 tcccaaccag aagggtacaa gggcgtgtg ttggggcacg gttggggaaac acattccctt 600
 tgggatggga c 611

(2) INFORMATION ON SEQ ID NO. 54:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 689 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

gccgaccgga cgcaaaaaaaaaa gtgaagctcc ggggtgcctg atggggccgt 60
 tggcgcccg gtatgtttt ctgtttttttt accccctcat tcctgccgtt gccgtccctg 120
 ctgcctcatg gggccatcg gagttcaccc gggctgcacc tcagccgttg tggccgtctat 180
 taaggatggc cgggtgtgtg tggtttgc aaaaatgtca tgatgccgtt gaccgagttt ctccagctgt 240
 tggatgttttcc tcaaaaaatgtt aagagattgt tggattggca gcaaaaacaaa gtagaataag 300
 aatattttca aatacgtttt tggaaatgtttt gcaatccctg ggcagaagct ccagtgtatcc 360
 acaagctca gaaatcatcg cggaaatgtttt atgttttagttt attggaaaaat 420
 acgatatgaa atagatactg gagaagaaac aaaatgtttt aaccggaaag atgttgccag 480
 actgatattt atgatgttttgc aatattgtt ttgggtgtt gatgttttgc atgcaatgtt 540
 tggatgttttgc tggatgttttgc agaaaatgtt aaaaatgttcc ttggagaagc 600
 agcttagatgtt gctggatgtt atgttttgc attaatttccat gatccgttcc cagctttctt 660
 tgcttatggaa gttggacaag actcccttca 689

(2) INFORMATION ON SEQ ID NO. 55:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 560 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

agaaaatgga cgctgacatc aatgtcacaa aagcgatgt tgaaaaggcc cgacaacaag 60
ctcaaatacg tcaccaaatacg gcagaggaca gcaaaggcaga ttactcatcc attctccagaa120
aattcaacca tgagcagcat gaatattacc atactcacat ccccaacatc ttccagaaa180
tacaagagag cggagggaaag gaggattgtg agaatgggag agtccatgaa gacatatgca240
gaggttgatc ggcaggtgat cccaaatcatt gggaaagtggcc tggatgaaat agtaaaagca300
gccgaatcaa ttgatcagaa aaatgattca cagctggtaa tagaagctta taaatcaggg360
tttgagcctc ctggagacat tgaatttgag gattacactc agccaatgaa ggcactgtg420
tcagataaca gcctttcaaa ttccagagga gaaggcaaac cagacctcaa atttggtgcc480
aaatccaaag gaaagttatg gccgttcatc aaaaaaaaaata agcttatgtc ctttttaacg540
ggggggccat tcagttcag 560

(2) INFORMATION ON SEQ ID NO. 56:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 851 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

gaagaagagt aagaaggaca agaaggccaa agctggctcg gagagcgggg ccgagcctgg 60
agatggggac agtgatacca ccagcaaaag aggtagaatt gtttctgag tagtgaaggc120
cacttgaagc tggaggagaa actaaagct tattgagaaa acatgttata gatcctttg180
ttgctgagag agtggAACat aggtcctaga caagggtaag agttctggca catttttagct240
gctactttga gacctcggtg atgttacctg gtgtggcat cccatcttgc cctgttttaa300
ggatatgggt ggtgaaagat gaaagaggca gagtttatcc caatgacttc tctgtttgag360
ttggaaagcc tcaccttcag acccagtaac tgtccgcagc tgtctgctag tgggtgtctt420
aacatcttag tcctagtttgcatttttaa atccccctcg tttaaaaggt ttgtaaaaca480
aaaacaaaaa actaagtctg ctcagtgaaa tgctgttagaa ccctaaataa gtggtagaag540
agtgtcactg aattttgtct ctgaatttcag tataacttag ttttgtccat gctgggtct600
gggttatagg cctgatgggc ctggtagttt tccatcttgc tctggcttag aggtcagtcc660
tttgcacttc ctcaaaagctt gtgtacagtgc tccacctaa tccatctgac tacttgtcc720
tgtgcctct tgggttaggc ctcgtttact tttaaaaaat gaaattgttc attgctggga780
gaagaatgtt gtaattttta cttattaaag tcaacttgc aagttttaaa aaaaaaaaaa840
aaaaaaaaaa a 851

851

(2) INFORMATION ON SEQ ID NO. 57:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1354 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

cttaccaaca gcctttctgc taagttctgt tttttggata tttatgactt ggttcatctt 60
atttttccct gathtagcag gagcccctt ctatttcagt ttcatcttca gcatagtagc 120
ctttctatac tttttctatac agacttggc aactgatcca ggcttcacta aggcttctga 180
agaagaaaag aaagtgaata tcatacaccct tgcagaaaact ggctctctgg acttcagaac 240
attttgtaca tcatgtctta taagaaagcc attaaggta ctcactgtcc atgtatgca 300
ctgctgtgtg gctcgatatg atcaacactg cctgtggact ggacggtgca taggtttgg 360
caaccatcac tattacatat tcttcttgc ttcccttcc atgttatgtg gctggattat 420
atatgatct ttcatacttatt tgcactgtca ttgtgccaca acattcaaag aagatggatt 480
atggacttac ctcaatcaga ttgtggctg ttccccttgg gttttatata tcttgatgt 540
agcaacttcc catttctcat ggtcaacatt tttatttatta aatcaactct ttcagattgc 600
ctttctggc ctgacccccc atgagagaat cagcctgcag aagcagagca agcatatgaa 660
acagacgttg tccctcaga agacaccata caatcttgg ttcatgcaga acctggcaga 720
tttcttcag tgcgtgtgtt ttggcttgg gaagccctgt gtgttagatt ggacatcaca 780
gtacaccatg gtctttcacc cagccaggga gaagggttctt cgctcagttt gaagaaaagc 840
aaccaaaaac tctcaatctg atttttttt gtttatgtcg atgccctgtt gtttgaagt 900
gaagtaaaga tttagaaatc acctaagtcc aaaggaaaac acgtgggttt taaagcatt 960
aggtaaaaaa agttctcaat aaaggcatta caattttta gtttagaaa gatggacttt 1020
tttgtataat ctggcagac atctaaaaaa aaaaccatat ttccacaag aaaatgcaag 1080
ttactttttt tggaaataat actcaactgtat tatggataaa atgaatatt ttcagatact 1140
atattggctg tttcaaaaata gtactattct ttaaacttgt aattttgct aagttatttg 1200
tctttgttgtt atctataat atgtaaaaaa tatttaataa gatgtacctg tttgccttc 1260
acacttaataa aaaaattttt tttttaaaaa ggaaaaaaa aagaagagga aaaagaagag 1320
aaaggagagg ggaagaaaga ggagaaggca agga 1354

(2) INFORMATION ON SEQ ID NO. 58:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 268 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

cgtgatctct cctcagtaaa accaaggtgc atttttctgg acccacctat cttgggggtg 60
attaggagta gagggttgta aatacttaaa atttttttcc tttctgatat aattattttagat120
ctccttctag aagtccgtgc gtctttgctg gagaattttt attaagcat cctttttag180
aagaatctct aatgtccctt tttcatccag atctacactt gatgaatcct aaagctattt240
ctacacagtt cctttattca gttttccc 268

(2) INFORMATION ON SEQ ID NO. 59:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 752 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

tgacaaaaga aatggaataa tttcaaaaaa gttaagtccct gagaagacaa ccctgaaatc 60
tattttgaaa agaaaaggca ccagtatat cagtatgaa tctgatgaca ttgaaatttc120
ttccaagtca agagtaagaa agagagctag ttcattgagg tttaaagagaa taaaagaaac180
caaaaaagaa cttcacaatt ctccccaaac aatgaacaaa acaaaccaaag tgtatgcagc240
aaatgaggat cataactctc agtttattga tgattattca tcctcagatg agagtttatac300
cgtcagccac ttcagttct ctaaacagag ccacagacca agaactataa gagacagaac360
tagttttctc tcaaattgc ctagccataa taagaaaaat agcacttttta ttccaagaaa420
accaatgaaa tggtaaatg agggaaagtgg ttaatcaaga gcagtcgtat gaatcaatgg480
ataaaattttt agatggcggtt caggaagtgg cttatattca ctcaaaccag aatgtaaattg540
gatcgagcaa agctgaaaat cacatgagcc gatgggcagc acatgacgta tttagttga600
agcagttttc acagctgaca gctaacatag ctgtttgcag ttctaaagaca tataaagaaa660
aagtggatgc agatacattg ccacacacaa agaaaggcca gcaaccgagt gaaggcagca720
tttcacttcc tctttacatt tcaaattcctg ta 752

(2) INFORMATION ON SEQ ID NO. 60:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1389 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

```

gaactccaag ttagtggtt gcagaatgg aacttggc ttgcggact gggtgagttt 60
tagtttgtt gtgtcttgc ggggggtggt gatgattgtc tcagcactca cgcactgcac 120
aagatgcag caggatacag cactgcacaa gatggcagct cctctgcagc ttccctcctca 180
gcctccctcc ttgcacccccc acagggtttgg cttgtggggtt ttgtcatcag taacctactg 240
cctgagatca ttagttttttttaaaagatgaga ctctcggaaag ggttgattgt atgcgtca 300
gagccttcta tcacccctctg gaacaaaagtc acttggaaatc tcttggatgag attaaggagt 360
ttagtggttac taagaaaatc tgctttggc cgcagcagtg ctgggtgttc tcagacactga 420
ctgaggaagt tagctgcggg ctgcctgtg ggctgggtgct tcaggaggaa tccagagaag 480
tgttcagatg cccccccttgg gctccctttctt attttaatc agtcttttaa atagctgccc 540
atctccctgtg attgcacaaac caagcacttt gacatttgca cctttaggaga ggcagatgtt 600
aaaatgaaat ccaaagacca cctaggggcgg ggctgggtgg gagatgggag ggccaaactgc 660
gagctgctcc acttctcagc tctccctgtc cctgcagcccc tggccagac aaggccagaa 720
ggtttccaggc gcatttgaca tcccccctctg gttctcacca ggaaaacatc caaagctttg 780
gaggaaacag gcacctgcccc tggctcccttta aatgccccgt ctctttgtaa actgatattc 840
agccagcaat gcttaagact ttgttaagat catttctact gctttcttt ctgcttcaaa 900
cacacagttc gtctctgagg aaagtaaaat aaatggaaata agagtaaatt gggtaaggag 960
atatccaaag ctacccagtc cttgaccca gcacagttgg ccgacccctg tcactccctg 1020
gctgtcgctg ctctctgtg ctcaactgaag ggtgagccag gccagtgttt ccccaagcccc 1080
tgggccttgtt cactacacag tggaaaacag acaagcggcc ctttccccaa atcccaagag 1140
tgtcttgctg ctgggtgggt gctcatcgca atgttctgaa ggctccagggg ccacttgg 1200
tgtaagatg atctgggcct caaaatacca tagtagctgc ttgataaaat tctaaaaata 1260
tcgtgttctc tattatgtaa acactattac agtcaaccagg gtgtgaagac tcttgagtct 1320
ggttctcata tcagagtcat cattttctt cctgtggaaat aaaatgcctt gtggacttcc 1380
caaaaaaaaaa 1389

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(2) INFORMATION ON SEQ ID NO. 61:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 726 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vi) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

cgtatctgtc cggacggaag caggaagcgg gagcgttagg gccacgcctg cgccgcgtgc 60
 ggttgaggct gtgtgggtgg gggacgggccc gaggcgatgg cggagaagtt tgaccaccta120
 gaggagcacc tggagaagtt cgtggagaac attcggcagc tcggcatcat cgtcagtgac180
 ttccagccca gcagccaggc cgggctcaac caaaagctga attttattgt tactggctta240
 caggatattt acaagtgcag acagcagctt catgatatta ctgtaccgtt agaagtttt300
 gaatatatag atcaaggctcg aaatccccag ctctacacca aagagtgcct ggagagggt360
 ctagctaaaa atgagcaagt taaaggcaag atcgacacca tgaagaaatt taaaagcctg420
 ttgattcaag aactttctaa agtatttccg gaagacatgg ctaagtatcg aagcatccgg480
 ggggaggatc acccgcccttc ttaaccagct caccctccct gtgtgaagat cccctgggac540
 tgcgtgcgg cgtgaggctg ggactgcgag tgctgacgccc accttcctgc tgaggtgggaa600
 ctggggccctg gacacaccccc tcagcccttc tgtcctcatt gtttggcctc atgggaccga660
 ggggctggag gagaggcggaa gtgtgccaaga gggtaaga ggttgttgg ggtgaaatgg720
 gtttgt 726

(2) INFORMATION ON SEQ ID NO. 62:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 681 base pairs
 (B) TYPE: Nucleic acid
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
 (A) ORGANISM: HUMAN
 (C) ORGAN:

(vii) OTHER ORIGIN:
 (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

ggctgagaaa aatgggggga gacataaacac ccacqaatga aaatacagat ttaagagaag 60
 gaaccagtaa agtaggagac agatgtgaag gaaatggaaa tgaggcaaga ggacattggaa120
 agagagaagt tggctgtccg gtagccaggt ctggagcata agtgtgaggg agttcaggta180
 ggctggccct gtgcctctag ttagggacaa gggaggctgg ttagccaggg ctggtgctta240
 aaacccctga ggccatgagc tcattggctg cctttagc atcctgtctt cttctgtgct300
 gcctggtttg atctcatctc acctggatc aaagggttaag gtgggcattgg gtcttggcc360
 tgacacccac caaggatgac ctgtggactg ccattggatc ctgaacaggg agatgaaagg420
 agtcctctt accataaccc tctgccaacc ccccaagttagg ccactgttct gactttgtt480
 ccagaataatc cagaaatcca aaggggctgt tgctgaacag tctgcaggac cagtgacagc540
 acctacatgt tgccttcaagg catacaaagg aggctcaac gctcatgtctt ctctaatcaa600
 gcccttaccaa gacagacaga aaaggaaggg ttagaggaga aggttgaagc tgcggatgtta660
 gactctgtttt cattccctgaa g 681

(2) INFORMATION ON SEQ ID NO. 63:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1116 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vi) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

gggccacact gagcagattc tttggtagaa ttttcaactt gagactaaca caagtatttc 60
 ctttctgtt cagttctcca aatgacaaga agtcttttg ctcaattgaa gggaatgga 120
 atgggtgtat gtatgcaaaa tatgcaacag gggaaaatac agtctttgtt gataccaaga 180
 agttgcctat aatcaagaag aaagtggagga agttggaaaga tcaagaacgag tatgaatccc 240
 gcagccttg gaaggatgtc actttcaact taaaaatcag agacattgtt gcagcaactg 300
 aagcaaagca caggcttgaa gaaagacaaa gagcagaagc ccgagaaaagg aaggagaagg 360
 aaattcagtg ggagacaagg ttatttcatg aagatggaga atgctgggtt tatgtgaac 420
 cattactgaa acgtcttggt gctgccaagc attaggttg aagatgcaaa gtttatacct 480
 gatgatcagg gcagtaggca taattcagca acaaacaatc ttcccttggtt agaaaacctgt 540
 tcattccaat cttctaaatc cagttgttcc tatctcaggg atactggact ttctgacgca 600
 gatgaacaat taagggaaa agcttccctt ttccctctgtt ggcagttacg attttgactt 660
 cagtcctgag aaaaacttca gtttttggaa atcagatgtt gtcttctccctt tttccaaaca 720
 ccacacgttg aaagcatttta taaatccaaag tctgaaactc tgccgtctag tactgtgtt 780
 aagatacaca acttggttct tagttcatat aatctcgggg acacacatac gtatacacac 840
 acatatacatat atataaaatat acctgatgcc agatttttt cattaaatattt ctgcctactg 900
 taaatatggg ttccctctgag ttgttttaga aaattagcgc aatgtattaa aatcaagtgt 960
 taggaaatttt catggcttta cctacaataa cttttattttt ggaattgttac tattattaaa 1020
 ttgttatctaa tcctggaaata cagtttaattt aatttttctt agtgcctttaag gcttcataaa 1080
 gtaatttttc caacctttttt tttaaaaaaaa aaaaaaa 1116

(2) INFORMATION ON SEQ ID NO. 65:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 806 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

NUMBER 206

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

tccaaaggct ctttagtcct tcctaagccc cacagtactt tcccgttagtc ctgaggcttg 60
ggacctccctg ggggtcttac cttccctccc cattgctgag acagtctgag aagaggctta120
gaaattttgtc tggggagtt tattcatctg tctctccat ttacctctcc caaaccaggaa180
tttccacttc tcaaaccctgc tggatctca caactggagg gaggaagtga gctggggggc240
tcatctccac tggctgcagg aacaggcctc cagggctccc agactgatat tcagactgac300
aatgatttga caaaggaaat gtatgaagga aaagagaatg tatcatttga acttcaaaga360
gacttttccc agggaaacaga cttttcagaa gcctcttcc tagagaaaaca acaggaagtc420
caactcagcag gaaatataaa gaaggagaag agcaacacca ttgatggaac agtggaaagat480
gagacaagcc ccgtggagga gtgtttttt agtcaaagtt caaactcata tcagtgcat540
accatcaactg gagagcagcc ctctgggtgt acaggattgg ggaaatccat cagctttgat600
acaaaactcg tgaagcatga aataattaat tctgaggaaa gaccttcaa atgtgaagaa660
tttagtagagc ctttaggtg tgactctcaa cttattcaac catcaagaga acaacactga720
ggaaaagct tatcaagtgtt cggagtgtgg caaagcttc agcattaatg agaaattaaat780
ttggcatcag agacttcaca gtgggg 806

(2) INFORMATION ON SEQ ID NO. 67:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 226 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

gcggatccgg cgttctgcac tcatctttc caagggtgta cagagatggc ggccgggttt 60
cggaaggcgg gtaagtcccg gcagcggaa cacagagagc gaagccagtg actaccgtaa120
aaaacaaggt acctcaaagg tgttcggaaag aagggtgttg aaaaaaatcc agtgagttct180
actacaaaat gactcgggtt aaactccagg gtggggtaca aattat 226

(2) INFORMATION ON SEQ ID NO. 69:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2042 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

gcagccgtcg cttcggagc gaagggtacc agcccgcaag aagctcggag ctctcggtt 60
 atcgaggagg caggcccgcg ggccacggg cgagcggggc gggagccgga gcggcggagg 120
 agccggcagc agcggccggc cgggctccag gcgaggcggt cgacgcctt gaaaacttgc 180
 gcgccgtc gcgccactgc gcccggagcg atgaagatgg tcgcgcctg gacgcgggttc 240
 tactccaaca gctgctgctt gtgctgccat gtccgcaccg gcaccatctt gctcgccgtc 300
 tggtatctga tcatcaatgc tgggtactg ttgattttat tgagtgcctt ggctgatccg 360
 gatcgtata acttttcaag ttctgaactg ggagggtactt tgagttcat ggatgatgcc 420
 aacatgtgca ttgccattgc gatttctt ctcatgatcc tgatatgtgc tatggctact 480
 tacggagcgt acaagcaacg cgcagctgga tcatcccatt ttatccaaac tccattcagg 540
 actttgcctt gaacatgttgc ttgcaatca ctgtgctt atgcgttgc ttatccaaac 600
 aatacatacg gcaactgcct cctaatttgc cctacagaga tgatgtcatg tcagtgaaatc 660
 ctacctgttt ggtccttattt attcttctgt ttatttagcat tatcttgcattt ttaagggtt 720
 acttgattag ctgtgtttgg aactgttacc gatacatcaa tggttaggaac tccctctgatg 780
 tcctggtttta tggtaaccaggc atgacacta cgggtgtgtt acccccgtat gatgatgcc 840
 ctgtgaatgg tgctgccaag gagccaccgc caccttacgt gtctgcctaa gccttcaagt 900
 gggcgagtg agggcagcag ctgtacttgc cagacatctg agcaatagtt ctgttatttc 960
 acttttgcctt tgagcctctc tgagcttgc ttgttgcgtt atgctactt taaaattta1020
 gatgttagat tggaaactgtt agttttcaac atatgttttgc ttagaacaact gtgatagat1080
 aactgttagaa ttcttctgtt acgattgggg atataacggg cttcaactaa cttcccttagg1140
 cattgaaact tcccccaat ctgtatggacc tagaagtctg cttttgtacc tgctggcc1200
 caaagttggg cattttctc tctgttccct ctcttttgc aatgtaaaat aaaacaaaaa1260
 atagacaact ttttcttgc ccattccaggc atagagaaca aaaccttgc gaaacagga1320
 tgtcaattgt gtaatcatttgc ttcttaatttgc gtaaatagaa gtccttgcgtt atgtgttac1380
 agaatttccc ccacaacatc ctttatgact gaagttcaat gacagttgtt gtttgggtt1440
 aaaggatttt ctccatggcc tgaattaaga ccattagaaa gcaccaggcc gtgggagcag1500
 tgaccatctg ctgactgttc ttgtggatct tgcgtccagg gacatgggtt gacatgcctc1560
 cg
 gatgtgttta gagggtggaa tggatgtgtt tggcgctgca tgggatctgg tgccctctt1620
 ctccctggatt cacatccccca cccaggcccc gctttacta agtgttctgc cctagattgg1680
 ttcaaggagg tcatccaact gactttatca agtggaaatttgc ggatatattt gatataacttc1740
 tgcttaacaa catggaaaat ggttttctt tccctgcaag ctacatccatc ctgcatttgc1800
 ctccaagta tgcgttgc tgcgttttgc accttgcacta cctgaatttgc aagggtttt tatatatttca1920
 ttttttgcataa agtcagcaac ttcctgttgc gttcatttttgc gatgtgttgc taaattaagt1980
 tttttgcataa taaaacaagg tttggccaca tccaaaaaaa aaaaaaaaaaaa aaaaatgggtt2040
 cg

(2) INFORMATION ON SEQ ID NO. 72:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2980 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

(2) INFORMATION ON SEQ ID NO. 73:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 227 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

cagcattgtt ccacggcaca gcataaggat agatccaaag tccacagggt ccattttgca 60
ggtcatattc tgatcctagg aaatgtcctt ttcccatatgt tgcctatgc ctttgggtt 120
tagtctatcc cagggtaac tgtggagaaa tcattggttt gagagtcaag agagcattgg 180
ttttggagct ttaatccctt tctgggtgaa ataagggtgt caacttg 227

(2) INFORMATION ON SEQ ID NO. 75:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 773 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

cggaagtgt aaggttcctg cctctcctcg gccaggcgga acctctctgc tgggccccgt 60
 ggccgcaaaa gaactttctt tctcccgccc gaacggtcgc cgccggccaac tgcctcgccc128
 gcctggcagc ctaaccctcc ttctttctt ctccctctcg gcttcgccc gcccctgcctc180
 cctctcgccc ggcggcatcc gcttgctgt gcccacccct cctcatcttc tgcccccggca240
 acggccctgc cccgctgcag tggatgtgcga caaggagttc atgtgggccc tgaaaaacgg300
 agacttggat gaggtgaaag actatgtggc caagggagaa gatgtcaacc ggacactaga360
 aggtggaagg aaacctcttc attatgcagc agatttggg cagcttgaaa tccttggatt420
 tctgctgctg aaaggagcag atattaatgc tccagataaa catcatatta ctccctttct480
 gtctgctgtc tatgagggtc atgtttctg tggatgttgc cttctgtcaa aggggtgctga540
 taagactgtg aaaggcccaag atggactgac cgccttggaa gccactgaca accaggcaat600
 caaagcttt ctccagtgt gatggatgg actgataact cccggaaaat gactctcctg660
 tggccctcaca ctgctgcctg tctgtctgtc actctcttac tggccagcttc ttcaagctaaa720
 tactttaaga ggggtgaggg gagagagaaa ttccataacaa atccgactac cag 773

(2) INFORMATION ON SEQ ID NO. 77:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 870 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

gaccggcgt ggctactagg agaaggacgt acggcctgc tagtagagga atatgtcgag 60
 tttctctagg gcgcggccagc aatggggcac ttttcttgcata atatggatct tcttagatgg120
 gaaaatgcag ccacccggca aacttgctgc tatggcatct ataagacttc agggattaca180
 taaacctgtg taccatgcac tggatgtactg tggggatcat gttgttataa tgaacacaag240
 acacattgca ttttctggaa acaaatggga acaaaaagta tactcttcgc atactggcta300
 cccaggtgga tttagacaag taacagctgc tcagcttcac ctgagggtc cagttggcaat360
 tgtaaaacta gctattttatg gcatgtgtcc aaaaaacctt cacagaagaa caatgtggaa420
 aaggttgcac cttttccag atgagtataat tccagaagat attcttaaga atttagttaga480
 ggagcttcct caaccacgaa aaatacctaa acgtcttagat ggttacacac aagaagaaat540
 agacgccttc ccaagattgt ggactccacc tggatgttgc tggctataag agaataagaa600
 ttgcagaaaa taacagtgt gttttttttt atgatgttct ctaacctaca660
 ggatggagta aaacaactgc tacagttcgtt cacctgtttt atgtgccgaa tcactgtggg720
 gaaagggtcgtt gaaagggtgtt tccatataa gggaaattgtt ataaaaatat aattttatag780
 aaccatttt atgtaatctg attgtatgt tttttttt atgttgcac aataataaaa tcacttactt840
 gtttgcactaa aaaaaaaaaa aaaggcgtac 870

(2) INFORMATION ON SEQ ID NO. 78:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 237 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

ttgtgatcggtatcccttcccgatcaaca ggcgagcccaag cccgggtcatctacaaccggc 60
ccgggaacaa cgtgaaaactg aactgcatttgcatgg ctatggggat ttccaaagct gacatcacgt120
gggagtttaac ggataaagtctg catctgaagg caggggttca ggctcgctcg tatggaaaca180
gatttcttca accccagggatcaatgaccc attcagcatg ccacaaagag gggtggc 237

(2) INFORMATION ON SEQ ID NO. 79:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 439 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

gtttgggaag	tttagatgg	gagcaataa	gtaggatct	ggcaagagga	tcatctacct	60
cagtcattag	gatttcttaa	taaaaaagag	attgtatttt	tgagttgggtt	attaagattaa	120
ttaaaaattag	cccttccttt	gaaatatgac	atcagcttgc	ctgttctaaa	tttaaaaattaa	180
gttgcattcat	cagtagcaca	cttccagttt	ctataccaag	ccagttttct	cagttttccc	240
cttaggatgg	gacaagtctg	ttcaggggtt	cattctgtaa	ggttcagcag	ggggtttggg	300
agaggattta	aggggaaata	cagtgggggc	agaatgggtt	cgggggtaaa	gttaggggac	360
aaggggaggg	ggcgaaaagg	aggggtggaa	ggatgggggc	cttacctaga	tcgggggatg	420
ccgggggggc	aaggcaagg					439

(2) INFORMATION ON SEQ ID NO. 80:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 2483 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 80:

gcaaaaagtct	tcaaactatt	gagaaaagagc	catagactga	gtgcaggcac	cagtgcgctc	60
ttattactgt	gtcaattaaa	tgaatgtatt	tgaatgtttg	gatacttacc	tctgaatgtta	120
ttttgagtaa	taacttcaag	tgcaaattat	gccatgcata	atttcttgg	tctcatgttt	180
ttccccccctt	ttcttttagg	cttgccttc	tgagtctata	aaaaaaacttc	cagttttaa	240
caagtcagcc	ttcaaacatt	atcagatgag	ctctgaggct	gatgactgg	gtatcccaag	300
cagggAACCA	aagaacctgg	caaaaagaagt	ggccatgtga	agagggacac	tcaggacact	360
ttacgggatc	aaagtgggtc	tacaccagt	ctgcttcctg	aatgtttgt	tgtgaaccct	420
tgtttcctcc	aaaacaaaacc	acagcaacga	aaactccctt	atcagaacac	tgatccaaatg	480
aggaatggag	cttgttctg	tgaccaggaa	gaacttagt	caagactaca	ggagttaaaca	540
gatggccagc	tccttatttt	ttaatgtaga	ataactcctg	agtttatatc	aaatcctgaa	600
gaaataagcc	tcagtttcc	atctgtttt	gataagaata	agaaagggag	tgagtgtgaa	660
gatgggggtt	agcagttca	ctaagactga	tattttaggc	ctttgttca	catcaaaaga	720
tatgggtgtc	agaataccag	cattttcctg	ccatgcaaag	gattaaaact	tagttacac	780
tatgtgttta	caaataatatg	tcaatgtaca	tttgaacat	atttatgtgc	tatggaagga	840
aatgtgggt	actaaaataa	ggtttactct	gaaagaggag	gaattttatt	caaagcattc	900
aaacattttta	ttcaagtggt	tcaaaattca	aagcattgtt	ttcaaaagttt	cagtgaaggc	960
atcaacttat	gtaaaaactc	agaaggaagg	ctcctctgt	aaaaacacag	ctcccttattt	1020
atgctgtttt	tcttgttca	tttacacact	aagtaaacac	ttattgttcag	gtgccttagtc	1080
ttgagtgaat	tgttagatgt	gcactgaact	cgggatgtt	gggattggag	agagagaattt	1140
gccaaagtaa	cagcaaaaat	atctctact	ttgctttgtt	tataaataaa	tttagtagattt	1200
ggaaaaacta	gtgttaggaa	aagaaatcac	atgttcagag	cctaatttcag	taggaagggc	1260
ttttctctac	cctgaaatga	aggttaatcca	aaggcatcca	ttttcttaggc	ttaaaagata	1320
tatTTTGTat	atatttaatg	atattctcta	cactccagca	ttaatatgtc	tgtttaaaaa	1380
ttactaattc	tcaaatggct	caagaacatt	agaattttaa	taccttttag	agtaattattt	1440
ttaagcaaat	agcctggacg	taagagattc	tcatgcccac	atgccttcat	ttgtcagtttg	1500
ttgtgactga	gagataatga	atgacacctg	aaatgcata	ggtattttt	ggagagttaa	1560
ggtataattt	gaaggttggc	agaccagtt	ggctgattac	tcttagagaa	gaagaatgg	1620
aaaaatgaaa	gaaggcagga	aggaaaagaaa	ggatatagg	agagagggaa	gcagaaggca	1680
ggcatttttc	tatTTTCCCC	acaaattatt	tcaaaaaaaa	tctgtatttt	ctgggatatg	1740
tcattggcaa	gaggaagaac	tgggtttt	aaagcagtat	ggattcttta	aatgcctctc	1800
actcttacaa	gatagtaggc	tttgagataa	taaacttacc	cgtgtcaatt	aacattaaa	1860
ctggcatata	gaaaaaaaagg	aggattttt	tgcatgtt	aataatcagt	atggttata	1920
tgttgaattt	gacattttgt	tgttatttca	tggggccct	gtgttgtgt	gtttctgtt	1980
atggtaatag	aagctcaact	atttttttgt	ggatttcagt	ttttatcatc	agaagtccct	2040
gacagtgaca	tttcttaatg	gtgggagttc	agctcatgca	tttctgatta	tacaaaacag	2100
tttgcagtag	gttattttgtc	atttcagttt	tttactgaaa	ttttagctaa	acatttttac	2160
atgttaatac	ttgttatttac	caaagattt	aatcagtt	ttaattaatt	aactcaaata	2220
ctgtgaacta	tctttaaaac	actagaaaaa	agaaaatgtt	gtatctcaat	tacaccaact	2280
gtgcaaatga	actttgataa	aatagaaaata	atctacatt	gccttgtga	aatctgggaa	2340
agagctttag	gattctagta	gatggataact	gaataactcag	gcccaactaa	tttattaaatg	2400
tatacattgt	gtttttgtct	ttatgctatg	tacagagaaa	tgtgataatt	ttttataata	2460
aatatttttt	atgatgataa	aag				2483

(2) INFORMATION ON SEQ ID NO. 82:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 353 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

gggtgggtgggg ggggggggtgt tgggccaaaaa gacttcggta tctgacaaca gcatcatcta 60
 cctcagtcat tagggtttct taataaaaaa gaggtgtat ttttacttg gttattaagg120
 ttattaaaat tagcccttcc ttgaaaatat gacatcagct ttgctgttct aaatttaaaa180
 ttagttgctt catcagtacc acacttccag tttctataacc aagccagctt cctcagtttt240
 cccatttagaa tggacatgtg ctgttcagcg tgtcatgtct gtaatgctc atgcagagag300
 tttggtcata gtattaaaga gaaaatacag tgaggtcaca atgtctccag agc 353

(2) INFORMATION ON SEQ ID NO. 83:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1039 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

cggggataac caaacacagc tgtttacggt ttctccctta acccatgctt tcataaaaccc 60
 cttcgacag cttcccccgtc caggcttct aaccacacct accccagggg tgccgcattc 120
 ctgcactcag aagtctgcag cggccctca aaaaacttga ttgtgccata aaaatcactg 180
 gggatcttgt taatacagct tctaactcaa tagatctggg agatcctgca tttctaaca 240
 gctcccaggt aaggcggagg ctgctgggt gaggaccatg ctgtgagcag cagggcgaga 300

 gtgcccaggg ctgatataa ttggaaatata caccctgaa gccatcgctg gcccccacct 360
 cctgtggact gatgccccag ggatcccac cccacttctg caacccccagg tateccttcat 420
 tatccacccc atccccagact cccacccccag ggattgccccg tgaagacttt ggcctagcaa 480
 attgtgttgg ttatgtgagc gttgtttaa tcagagatgt acatgattgc caatctgcat 540
 ttcttaccag tgcgtaccaca ctgttacgt gcaattctag caaaaaaaaa actttttctt 600
 agtcttatgg aaagcaaata tacaatgatt ttcagtaggc ttctggaata gaaacagtgg 660
 tttgaagacc ccactgcccac ctttatggac tggccccctt gagtctgaat ccccgccctc 720
 tgtcacctga gacccaaccc ctagctggc caactccagt gaattcaccc atttttcttc 780
 ttcagaaggc ctttcctgtg tgagacccac atattttaaac cttttgtcc tatcccattt 840
 ttaaagaatt agagaataaa ccagccctgt ttcttttccc ctgaaatccc tgcctctggc 900
 ttcctaaacc catcatctaa ggtgacagag cagtgcgtgg aataggcatc ttcctttcaa 960
 ctttccaaa actggccaca gataggctgg ccatggaaag ggtctttgga tttcggggg 1020
 ggcaaacgtg ggggattgt 1039

(2) INFORMATION ON SEQ ID NO. 85:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 330 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85:

agtgtattca gcaaatgagg gtcagaactt tcagtttatt gatggttatt cagccgcaga 60
 tgagagttt tgcgtcagcc acttcaattt ctgtaaacag aggcacaggc caaggactgt120
 aaggggcaga actagttttt cttcaaaatt gccttaggcat aataaggaaa atagcactt180
 tatttcaagg aaaccgatgg aatgttcaaa tgaggaagtt gttaatcaag ggcagtcgga240
 tggatcaatg ggtaaatttt aggtggcgctc aaggaggggc ttatattcac tcaaaccgg300
 atgttatttgc gtcgggccaa gtttggagg 330

(2) INFORMATION ON SEQ ID NO. 86:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 235 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

attnaagtat ttttagttt taaaatgtc tttccggta gggaggagc cccagccaga 60
 aagcaattca atcatggtca agtttccaaac tgagtcatct tggatgtggg taatcaggaa120
 aatgaggat ccaaagaca aaaatcaaag acagatgggg tctgtgactg gatctttatc180
 atccattctca aatccatttg aatattgcgg gcttacaaaa tgccaagggg gtgac 235

(2) INFORMATION ON SEQ ID NO. 88:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 866 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

caggaccaggc ctggccaaaca tggcaaaacc ctgtctctac taaaaagtaa aaaaaattag 60
 ccgggcattgg tggcttgc ttgttagtccc acttcagtct aagtagctgg gactacaggc120
 acgtgccaca agcccaagcta atgtgggtgt tttgttagag atgaggttagg gccatattgc180
 ccaaggctcggt cttgaacacc ggggctcaag gaatctgccc atcttcgcct cccaaagtgc240
 tgagatagca ggtgtgagtc atcatgccc gcctccttga agtttactaa caattggat300
 aactgaggga agagaagtga caattccact cagtttattt gaggcttgg tataaggtag360
 ccacacataa actctaactt gacttctaac cattctatct tattgattt gaggctgtct420
 tctgccagat tttttgtggc ttgagatgtat ttttcgaac ctttcttca ctaccttct480
 tacccttaat gtgccaagct tgaaacagga ttgttcc ttgactt 866
 tggtcgac caagtaatct ggttcatctt tcgtctcatt catgttattt tcaagtggaa600
 caagacattt tgggggtcaa gtctcttgg gtgtttgtt tttatgtata taaaaatggaa660
 ttttgttccatg taagttaccaa cttatatggaa aactcacaat cataatgtaa720
 agaagaaatggaa agccgtgtt gttttgtact tcaagatgcc tccctgtatgt atagaatctc780
 cttgtttttt aaataattgc attgtatatac agtcttccca tcaatattaa ttatataata840
 tttagattttt tttaataacc aactat

(2) INFORMATION ON SEQ ID NO. 90:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 846 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

ctccttgc aacggaaaaa acatggaagg gttaagccta aacaaccctc aaacggaact 60
ttatgccaga aaacaactac ggaataaaaa cccacaaaaa tacagagagg aacgttttta120
accttaggg cctgcgtcct ctgcctttgg cccatcaggg tcaaagagta ggagtgagga180
aggaaggat gggacagcat cccctgggac gttcaagtac catccctggt ctccactctc240
cagccttaga gagtggacca gccagagcac ctcgtctgga ctctcagacc tgctgcttg300
tctctacca ccttggcagg gatctaggat ccatttagtg ggatcaggtc ccagtcaata360
ccattgggc tcaaataagt tcttagaacc acagagtcta gggccagggc cccaaactcat420
aggtgacgga gttcccttgc aagctcgtgc cgaattcggc acgagcgggc acgagcttga480
agggaaactcc gtcagctatg agttgggacc ctggccctag actctgtggt tctaagaact540
tatttgagcc ccaatggtat tgactggac ctgatcccac taaatggatc cttagatccct600
gccaagggtt gtagagacaa agcagcaggt ctgagagtcc agacgagggtg ctctggctgg660
tccactctct aaggctggag aaggggagacc aggatggtac ttgaacgtcc cagggatgct720
gtcccatccc ttccctcctc actccctactc tttgaccctg atggccaaag ccagagacgc780
aggcctaaa ggtaaaaacg tcctctctgt attctctggc ttttactccc tagtgtctct840
gcataa 846

(2) INFORMATION ON SEQ ID NO. 92:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1374 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

cgaaaagcgtc ggactaccgt tggtttccgc aacttcctgg attatcctcg ccaaggactt 60
 tgcaatataat ttttccgcct tttcttggaaag gatttcgtcg cttcccgaaag gtcttggacg 120
 agcgctctag ctctgtggga aaggttttggg ctctctggct cggattttgc aatttctccc 180
 tggggactgc cgtggagccg catccactgt ggattataat tgcaacataga cgcttggaaaga 240
 gtcgtggcg tgcgacaacg cgccgcagaa gatgcagacg gtgaccgcgg cggttggagga 300
 gcttttggtg gcccgtcagc gccaggatcg cctcacagtg ggggtgtacg agtcggccaa 360
 gtttatgaat gtggacccag acagcgtggt cctctgcctc ttggccatgg acgaggagga 420
 ggaggatgac atcgccctgc aaatccactt cacgctcatac cagtccttct gctgtgacaa 480
 cgacatcaac atcgtgcggg tgcgtggcat gcagcgcctg ggcgcagtcg tgggagagcc 540
 ggcggagacc cagggcacca ccgaggcccg agacctgcat tgcgttcctgg tcacaacccc 600
 tcacacggac gccttggaaaga gccacccgtt ggtggagggt gccagctact gcgaagaaaag 660
 ccggggcaac aaccagtggg tcccttacat ctctcttcag gaacgctgag gcccctccca 720
 gcagcagaat ctgtttagtt gtcgtccacaa acaaaaaata caataaaatat ttgaacccccc 780
 tcccccccccag cacaacccccc caaaaacaac ccaacccacg aggaccatcg ggggcagagt 840
 cgttggagac tgaagaggaa gaggaggagg agaaggggag tgagccgcgg caccaggcgc 900
 agagatccag gagctggcgg ccggccgtatca gatggagaag gggggaccac ggcgcaggcagg 960
 agacaggacc cccgaagctg aggcccttggg atggagcaga agccggagtg gcggggcacg 1020
 ctgcgcctt cccccatcaacg gagggtccag actgtccact cgggggttggg gtgagactga 1080
 ctgcaagccccc cacccttcctt gagactggag ctggcgtctg catacgagag actttggttga 1140
 actttggttgg tcccttgcac cacccttcgac aagaccacac ttgggactt gggagctggg 1200
 gctgaagttg ctctgtaccc atgaactccc agtttgcgaa ttatagagac aatctatttt 1260
 gttacttgca cttgttatttc gaaccactga gagcgagatg ggaagcatag atatctatata 1320
 ttttatttct actatgaggg cttgtataa aatttctaaa gcctctgaaa aaaa 1374

(2) INFORMATION ON SEQ ID NO. 93:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 761 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

gcctgatggg ctggagccag actgtggct gaggaggaga cacagcctta taagctgagg 60
gagtggagag gcccggggcc aggaaagcag agacagacaa agcgtagga gaagaagaga120
ggcagggaaag acaagccagg cacatggcc accttccac cagcaaccag cgccccccag180
cagcccccaag gcccggagga cgaggactcc agcctggatg aatctgacct ctatagcctg240
gcccatctt acctcggagg tggaggcccg aaaggtcgca ccaagagaga agctgctgcc300
aacaccaacc gccccagccc tggcgggcaac gagaggaaac tggtagccaa gctgcagaat360
tcagagagga agaagcgagg ggcacggcgc tgagacagag ctggagatga ggcagacca420
tggacactac acccagcaat agagacggga ctgcccgggaggaggaccc aggacaggat480
ccaggccggc ttgcacacc ccccacccct aggacttatt cccgctgact gagtctctga540
ggggctacca gaaaaagcgcc tccaaacccta gcaaaaagtgc aagatgggaa gtgagaggct600
gggaatggag ggcagagcca gaaagatccc ccagaaaaga aagctacaga agaaaactggg660
gctcctccag ggtggcagca acaataata gacacgcacg gcagcacaaa aaaaaaaaaa720
aaaaaaaaatcc ttgttaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa761

(2) INFORMATION ON SEQ ID NO. 94:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1825 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

agggaaagcta gtagcggacc ggaagtgagg caccctcggt ctcgagacag cggcgacgtt 60
 taaagctgag cgacccagtg ccactggaga cggtcagctt ctccactca gctcctccag 120
 cccgagccag aagacccccc cccccagaat tctgggggco gatggaaggg agccgagtca 180
 gatcgcgagg taccagagc cgacagaccc gggcgacagg gagttgccag aagccccgccc 240
 cctaggatgt atcgaaagc ctcaccatc cgggtgagga acccgagga cccgctccgg 300

 gcggagcgcc gaccatggct acggccctgg tggcggttcc cgcagctcta cgcttcgccc 360
 cccggctag ctggcagggtt gtgcgcggac gctgcgttggaa acattttccg cgagtaactgg 420
 agtttctgct atctctgcgc gctgttggcc ctggcttgggt tcgctaccgg caccacgaac 480
 gcctttgtat gggcctaaag gccaagggtgg tgggtggagct gatcctgcag ggccggccctt 540
 gggcccaagt cctgaaagcc ctgaatcacc actttccaga atctggacct atagtgcggg 600
 atcccaaggg tacaaagcag gatctgagga agattttggaa ggcacaggaa attttttacc 660
 agcaggtgaa gcagctgtca gaggctctg tggatttggc ctcgaagctg caggaacttg 720
 aacaagagta tggggaaaccc ttctggctg ccatggaaaa gctgctttt gagtaacttg 780
 gtcagctgga gaaagcactg cctacacccg aggacacagca gttcaggat gtgctgagtt 840
 ggatgcagcc tggagtctct atcacctt ctcttgcctg gagacaatat ggtgtggaca 900
 tggggtggtt gcttccagag tgctctgtt ctgactcagt gaacctggct gagcccatgg 960
 aacagaatcc tcctcagcaa caaagacttag cactccacaa tcccctgcca aaagccaagc1020
 ctggcacaca tcttcctcag ggaccatctt caaggacgca cccagaacct cttagctggcc1080
 gacacttcaa tctggccctt cttagggcgcgaa gaaagttca gtcccaatgg gctccacta1140
 ggggaggcga taaggagcgc cccacagtca tgctgtttcc ctttaggaat ctccggctcac1200
 caacccaggt catatctaag cctgagagca aggaagaaca tgcgatatac acagcagacc1260
 tagccatggg cacaagagca gcctccactg ggaagtctaa gagtcacatgc cagaccctgg1320
 ggggaggggc tctgaaggag aaccctggacttgcctgc cacagagcaa aaggagaatt1380
 gcttggattt ctacatggac cccctgagac tattttttt acctccctagg gccaggaaagc1440
 cagtgtgtcc tccgtctctg tgctgttccg tcatttccat aggggacttg gtttagact1500
 ctgatgagga agaaaatggc cagggggaag gaaaggaatc tctggaaaac tatcagaag1560
 caaaatgttca cacattgata cccactctt ctgtatccat accccttctt gcccacgggt1620
 ccatacctgt ttcttcctgt gactgttagag acatgttca acctttgtga tagaactaa1680
 atgctctctg tactctagtc ccctgcctcc tcagctctgc aagtagttt gtaggaatg1740
 agtggaaagtc caggcttggta ttgcctaact acactgctaa aaatattttt aatccttaat1800
 aattaaactt tggatttggta aaaaaa 1825

(2) INFORMATION ON SEQ ID NO. 95:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1374 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

ccgggattcg ccctccgggg agcgatttgt cctcgggagg ggccggggagg tggacgcggg 60
 taccggcggt cgtcgggtcg gcagcctttg gtcagttggc agcggcaagc gcgctgcgg 120
 tccggtgccg ccatgtcggt ctgcagcttc ttcggggggc aggttttcca gaatcactt 180
 gaacctggcg tttacgtgtg tgccaaagtgt ggctatgagc tggctccag ccgctcgaag 240
 tatgcacact cgtctccatg gcccggcttc accgagacca ttcaacgcccga cagcgtggcc 300
 aagcgccgg agcacaatacg atctgaagcc ttgaagggtg cctgtggcaa gtgtggcaat 360

 gggttgggcc acgagttcct gaacgacggc cccaaaggccg ggcagtcctcg attctgaata 420
 ttcaagcagct cgctgaagtt tgcctctaaa ggcaaaagaaa cttctgcctc ccagggtcac 480
 taggcgggca gcccacaccc accccacacg gccaccacac tgaggccaca cgttggccat 540
 tccaccttgg agttggaaacc ctggcgctcg agacagggaaag gcagggcgcgttgggtgaaa 600
 catcaggaca ctcccaaggc cccggctctg aacaagacat ttcgtttct tggaaaagag 660
 actcatgtc tgcgtgttca tgcctctgc tgggacagggc ctgggctgtg cagccacact 720
 gtgggtgtac tttagccccct gctcaactca ggtgcctcca ggaggtgagc cctgggtgca 780
 gctggctctt gaatgacgtt acaccctcac cttcttttcc tggccctgtc tctggactct 840
 cccctgtgag gccaaattcc aagacagact ctgcgtcctca ccgaagctta ggcccacatc 900
 tcccaggtcg cttagggagac agaatggaaa cggaggccgc ccctgcccagc cgccctggcc 960
 ctgggtcactg catgatccgc tctggtaaaa cccttccagg ccagccagag tggggatgg 1020
 ctgtgacactg ctgggaaggc aggctgatgg ggcacacccct tggccctctcg tccacgagg 1080
 gagaaaccta aaccctgttt cacaatctgt gccaaggtag cttgcctcac ttctgcttag 1140
 gaaagccgct gttgctccat aactctaacc agcacaggc tgaggcctgc agtgcacacc 1200
 tgcaggaggc cccttccca ggtgtggta ctgtgcctta ctgtacatgc tcggaggcct 1260
 ggccatatacg gaggggtgggt gatgtgaaa tcaccccccata tcttaagtaa ttacttctg 1320
 gagtaatcg gtggaaatcc atagacaaat gaaacattca gatgtaaaaaaa aaaa 1374

(2) INFORMATION ON SEQ ID NO. 96:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 2615 base pairs
 (B) TYPE: Nucleic acid
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
 (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

cttgggaagc tcctggatct ttgtcaacct gactgtgcga ttctgtatct tggaaaaaga 60
 gtccttttat gacacattcc atactgtggc tgacatgatg tatttctgcc agatgtggc 120
 agttgtggaa actatcaatg cagcaattgg agtcaactacg tcacccgggtgc tgccttctct 180
 gatccagctt cttggaaagaa attttatttt gtttatcatc tttggcacca tggaaagaat 240
 gcagaacaaa gctgtggttt tctttgtgtt ttatttgtgg agtgcatttgg aaattttcag 300
 gtacttttc tacatgctga cgtgcattga catggattgg aaggtgctca catggcttcg 360
 ttacactctg tggattccct tatatccact gggatgtttt gcggaagctg ttcagtgat 420
 tcagttcatt ccaatattca atgagaccgg acgattcagt ttcacattgc catatccagt 480
 gaaaatcaaa gtttagatttt cctttttct tcagattttt cttataatga tatttttagg 540
 tttatacata aattttcgta acctttataa acagcgcaga cggcgctatg gacaaaaaaa 600
 gaaaaagatc cactaaaaaag aaagattttag atggcttctt gccagtttga gcctaactcg 660
 attcttacag ttttaccttc ttgaaccaat gtaaaagttt tttaatgtt aaatgattaa 720
 attctcagtg aggctatctt cttttttccc agtaacatc ctgaaatttac ttttatctta 780
 ttgttagtact tgcattgacat. ggatccctga tatctgtatg gagtttcatt tttgtgtatt 840
 cagttaatga cacaaaaagg ctcagccac cccaaacccta tctcatgttc agtctgtcta 900
 atacatgcca gagattttt tttcaaaaaag tgctttatcc ctacaatgtt ctgacagttc 960
 ttacagttga gatttggttt tttcagctat tgcttgcattt aaaaagcaag actatgtcac 1020
 tctatagaag gctgttaaaag tgactcaggc aggaattttat tattctgtac ctaagggtt 1080
 acttggttaa tggatggca ttgactttt gaaaatcaag tggactgagt cattgataaa 1140
 acatttctaa gagtggggct agagaacata ctttacatct gacatccctt ggcctaaca 1200
 catctattat tatagtgttc agcagtgtgg gcattgaaga ggcgcagaat gcttggaaag 1260
 aaactaatca gaatcttggc acatcatgtt catgccattc ttaagttaaat caactat 1320
 caacactgaa gaaaaatgaa acattattta gaaaacaatg agattacaag ttccaaactc 1380
 agccaggaat gtggctcaca cctgtatcc cagcactttt ggacaccttag gtgggagcat 1440
 cgcttgaagc caggagttca agaccagctt gggcaacacgtt gtggagaccc ctatctctac 1500
 aaaaaataaa aaaatttagt ggggtgtatg gcacacaccc gttgtccca gctactcaag 1560
 aagctgagat gggaggatcc ttagctcagg aggtcaaggc tgcagtgagc cgagattgtg 1620
 ccactgcact gcagcctgg gtgacagtgc aagaccctgt ctcaaacccaa accaaaccac 1680
 acacacacaa acacacatc acacacacac acacgaggatc caaatggtag cagggatcc 1740
 aagggaacac agtatgttagg tcaaactggc agtaacagtg tacagecttt gacaaactag 1800
 aaatattaga ttagggccaaa cacacctca aactgtatgg ctgtgcacaa acataaaaaa 1860
 tggcagcctt ccatctcctg cactggctga gtccattttac ttgtgtactt gttctagtga 1920
 gtgggtggac tgcattttt tgaatagacc tcaaaaaatac ttcatctgc tgctgttcag 1980
 ttggctttt aaacctgtct gcagtaggac actgaaaaca gcaagaactt cgggggtgaac 2040
 acccgctgtat cctttaacaa ggatttctgg cagggaaactc aaaaaaagga gaactgaaaa 2100
 ttttagacata cagttggcca ttgtaaaaaa catcagttt cttctcataca ttccaaagtaa 2160
 accaagtaaa ataagtgtt gagaacact tgcataaaag aatthaagga gtgatagctc 2220
 tttctgttct gccattccca acatccctgg gggaaaaggag actcaatgag ttaataactat 2280
 ttcactgagc ccaagatgga aacttggttt gacctaaaac atctgattaa tataaggctag 2340
 ctgatttctt aaaaattcgt tgcattgaag gatattttgc atgtctgtaa cacctgtcaa 2400
 tacttggttt tattgatttc tgatattctt gcagctgact acgtgttaatt gggcagatca 2460
 gctttgcagt agattatgtt gcattcctgt ggcaaaaattc ttttattctta gtgattgtta 2520
 caaaccctt tattgctgtc tgagaaaagtg aaagattgtt tatttctatt aaaacattta 2580

(2) INFORMATION ON SEQ ID NO. 97:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 508 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vi) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

gttggcagaa acccggattc cggttccggt gggctccat cagcaagctc cagtgcatacg 60
 tggccctggc attttaggtg tcgggtgggt aggcaagtcat ggatcaggta atgcagttg120
 ttgagccaag tcggcagttt gtaaaggact ccattcggt ggtaaaaaga tgcactaaac180
 ctgatagaaa agaattccag aagattgcca tggcaacacgc aataggattt gctataatgg240
 gattcattgg cttctttgtg aaattgtatcc atattcctat taataacatc attgttggtg300
 gctgaataca ttttgaaga gagttttca tcttagagat tggtaacaa gtgtgagggt360
 gtgagaaact cacagaatac aaatttgctt gtatgttttgggtttttt ttttccttt420
 caagatgttt tctatttcta aattaaagta atttcaaagt aaaaaaaaaa aaaaagtgcg480
 cgcggccgca aatttagtag tagtaggc 508

(2) INFORMATION ON SEQ ID NO. 98:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3588 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
 (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

ctccgtctca aaaaaaaaaa aaaaaaaaaaag aaaagggaag ggaatccat tttgtatga 60
 tttggcaca ctacttgagc tgaggctagc agtcacatga tttggctgt ctctgacctg 120
 aagtttga agtaagttt tgccttcc ctgaagctt gttatagtg gtaatttgg 180
 gagtttgc tttgagctt tcttagaaaa taagactgtc cacctgggaa ggggagctt 240
 tagggaaacc gtttaactc agaatgtc agaaagtgtc tttagccaa aaaagtaaga 300
 ttactatcta gaagggtggaa agaagtcatt gcttcgttcc ctccagcagt cagttgactc 360
 taggtttctt ttggttata tccccagttc ttaataactaa aacttatttgc acttcctatc 420
 aggaagcaca caaaaaaaaa gtcatttaaa accctggata taggctttaa aggataaaaa 480
 aacagcagca ttgtcggtt gccagggttca tcaccatttt gatgtgtac ccattccttcc 540
 accctccctt tcctgcccccc aagcctccca gccaggccag atgtgaagat tctattaatc 600
 actgtttcag agaacattaa ttcttgata gaataattat ctactaaattt gcttattatc 660
 tgtgactacc ttgcagagaa catctcaaca gtgcagtaaa atagctctcc tagacttgag 720
 cttccagcca ggcatttga tcactttaa gccttggg aattctgagg aaaaaaaaaa 780
 agatgcctca atgcctatgc tggccataa gattctactc ccctccctgt aggggtgggc 840
 gctggctca gctttggaaa atcattttgc cagtaatattt gctgtgtaat ccctttaaga 900
 agtcgttctg atctgagcct gctttcttgc gcacttggg gctgaatttga aaatggtaag 960
 ctaaagcagt gacagatcca ctagccctt ttaacccctt tattatcttgc caaaaaaaaa 1020
 agtttctcag gttaaacctt tgccttttac ctcccttgc tttggagaaa atgtgtcact 1080
 aatcagtggc ccaagggtt tctacttttgc gttactcagt tcctgcagca taacagatat 1140
 gacttatgcc agggaaaggta gaggctgatt atggagacac ccaggaacag gaataaga 1200
 ggataggct gctccacgta gacccccc agatcggaaat ttaacttgc gagagtttcc 1260
 aaagtgtga agtaaaaaaagg agacttggag ggccttgc tttggagaaa gggcttgc 1320
 tcctcccaag aacatgaggg aatcagaag ggagctatag ctcacagaca gaaacctgccc 1380
 cgctcaccctt atccctcgatc actgggagca tttttgtca gatatttgc agaggactct 1440
 cccttcaaaa atccaaatttgc tccccagaat gtttttttgc ctctgagaat ctcactctt 1500

 cattccatc tttgtatggc catagatgtt ttgtcggtt gtcaggatccatc 1560
 gggccctgt gcatgggtt gcatggatgtt ttagaaaaat aattgggtca gtcactgtat 1620
 aaagaaataa gttatgtatc cagttttgtt aatgtcagggt ctgttctgtt gttttgtat 1680
 ctgaagactg tcaaaacttgc tgataatcaa agaaaaagggtt ggtgggttata aatagtaaaa 1740
 ttctacttgc aaagatataatc ttaccatgtt ttccatgtgc ttaaggaaat tttttttt 1800
 tcaggttgc gagaactgtt gtaaaaatggc attgaagctt gtttttttgc cttctttagg 1860
 tgtatcagag agagaaatgtt gtttttttgc attgtatgtt tcataacttac ttttgc 1920
 ccagccctca tttcaaaatgc tttgtcttcc atccatccatc atgacatggg ttttttttgc 1980
 ctctgaggag gcaatgggtt cccaccccttgc tttgtccatc ttttttttgc ttttttttgc 2040
 cagcttaccc gtttttttgc tttcttgc ttttttttgc ttttttttgc ttttttttgc 2100
 atcagaaagg ttaacatccc tgggaccattt ctacttataa aagagatgaa ttttttttgc 2160
 ttctccctt ttccagggtt gcatccatc ttttttttgc ttttttttgc ttttttttgc 2220
 ttttttttgc gtttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2280
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2340
 ctttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2400
 accccaggac ctttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2460
 ccagaactct ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2520
 ttcttcatcat ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2580
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2640
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2700
 ctttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2760
 ctttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2820
 ctttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2880
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2940
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 3000
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 3060
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 3120

tcatgggtgc ggctggcagt acagtcaaggc tgtggaggag ggctgagaag aaagggcac3180
 tggtccagcc ccaggtttgg tctgagacag gtacacagca gataccatcc cacccctc3240
 tctaaagaac aggccagcca cacatataac ccttcctta cttaactaat gtatccctta3300
 tgtggtacca gcaatggagg acaggcagac ttacccctg ccatctagag agaatgttgt3360
 tattaccctgt aaaacttgac cacccttata tcccactcct ttttgtaaaa acaaatgctt3420
 aaacctgtga gcctgcgtt ccttcctatg tgttaatcag tttccttcca tttgagctgt3480
 gtgggaggga agggcattga aattgttagt tgtaatctt tgccaaccaa taaaaaccag3540
 tatttcacac aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3588

(2) INFORMATION ON SEQ ID NO. 99:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1218 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

tggtggcggt taaataacaa atctgctaaa gttaggcaac aggcagctga cttgatttct 60
 cgaactgctg ttgtcatgaa gacttgtcaa gaggaaaaat ttagtggaca cttgggtgtt 120
 gtattgtatg agtatttggg tgaagagtac cctgaagtat tggcagcat tcttggagca 180
 ctgaaggcca ttgtaaatgt ctaggtatg cataagatga ctccaccaat taaagatctg 240
 ctgcctagac tcaccccat cttaaagaac agacatgaaa aagtacaaga gaatttgtatt 300
 gatcttgttgc tgcgtatgc tgacagggga gctgaatatg tatctgcaag agagtggatg 360
 aggatttgct ttgagctttt agagcttta aaagccaca aaaaggctat tcgttagagcc 420
 acagtcaaca catttggta tattgcaaag gccattggcc ctcatgtatgt attggctaca 480
 cttctgaaca acctcaaagt tcaagaaagg cagaacagag ttgttaccac ttagcaata 540
 gctattgttgc cagaaacatg ttcacccctt acagtactcc ctgccttaat gaatgaatac 600
 agagttcctg aactgaatgt tcaaaatgga gtgtaaaaat cgctttcctt cttgtttgaa 660
 tatattgggtg aaatggaaa agactacatt tatgccgtaa caccgttact tgaagatgt 720
 ttaatggata gagaccttgt acacagacag acggctagtg cagtggtaca gcacatgtca 780
 cttgggtttt atggatttgg ttgtgaagat tcgctgaatc acttgttgc ctatgtatgg 840
 cccaatgtgt ttgagacatc tcctcatgtt attcaggcag ttatggagc cctagagggc 900
 ctgagagttg ctattggacc atgtagaatg ttgcaatatt gtttacaggg tctgtttcac 960
 ccagccccga aagtcaagaga tgtatattgg aaaatttaca actccatcta cattggttcc 1020
 caggacgctc tcatacgacaa ttacccaaga atctacaacg atgataagaa ccacctaata 1080
 atccggtaa tgaaccttgg octatagctt agtaatttta agtggttat tttgggtgtt 1140
 aatgcccact gttcacaccc ttaaacttgc tttagttgg tgggttacc tttaaacatgl 1200
 caatcagtgc tgactgg 1218

(2) INFORMATION ON SEQ ID NO. 100:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1303 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

gtgctcaaga agtgccttga gttgggtgtac agtgccatgg ccagcaagaa tcccaagattt 60
 cagttttat tacaaaatgt aagtggtcac ttggcgattt tggtagtacat gcatgagttt 120
 cctttttctt ctatgtctga gaactgtca gatggcaaaat gatggcaaaag agatcgtag 180
 agtgcacaac aaaatcaacta tcccaatttca cacatcatca aaagcttatt tttattctt 240
 cactggaaaga atcgtaagtc aactgttttgc tgaccatggc agtgttctgg ctccaaatgg 300
 tagtgattcc aaataatggt tctgttaaca ctttggcaga aaatgccagc tcagatattt 360
 ttagatacta aggattatct ttggacatgt actgcagctt cttgtctctg ttttggattt 420
 ctggaaatacc catggggccct ctcaagatgt ctggacttctt aggacattaa gatgattgtc 480
 agtacattaa acttttcaat cccattatgc aatcttgc ttaatgtaa acttctaaaa 540
 atatggtaa taacattcaa cctgtttattt acaactttaaa aggaacttca gtgaattttgt 600
 ttttattttt taacaagatt tggacttga atatcatgaa ccatgttttgc atacccttt 660
 ttcacgttgtt gccaacggaa taggggtgtt gatatttctt catatgtttaa ggagatgtt 720
 caaaaatgtca attgcttaa actttaatattt cctctcaaga gaccaaggta catttacctc 780
 attgtgtata taatgtttaa tatttgcag agcattctcc aggtttgcag ttttattttctt 840
 ataaaatgtatg ggtattatgt tgctcagttt ctcaaatggt actgttattttt ttatattttgt 900
 accccaaata acatcgcttg tactttctgt tttctgtattt gatatttgc aggattctt 960
 aggctttatc agtgtatct ctgccttttta agatatgtac agaaaaatgtc catataaattt 1020
 tccatttgaag tcgaatgata ctggagaagcc tgtaaagagg agaaaaaaaac ataagctgtt 1080
 tttcccccata agtttttta aattgtatattt tgatattttgtt gtaatattcc aaaagaatgtt 1140
 aaataggaaa tagaagatgt atgcttattgt taagtcttaa cactacagta gaagaatggat 1200
 agcagtgcac ataaattaca tttttccca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaaagtt 1260
 atacgttgaa atgaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1303

(2) INFORMATION ON SEQ ID NO. 101:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2333 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vi) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

(2) INFORMATION ON SEQ ID NO. 102:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1377 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

cattactgtt atatgagaaa catttttagta atttataaaa aggataatgt ttatttaaaa 60
 aacctgactt ttccagagata attttgtttt gcacattcat gtttattgaa gtggactaat 120
 ttctataatg caaatcagag ttaaatatta aaaattgtgt aaatacaatt gacataggaa 180
 ttacataaa atattaggaa gaaacaagga caaatttaga ccttgaatcc gaagagataa 240
 agcttacttg actttcaaat ggagagatga tgaaaaccca ctcatcagt ctccagaac 300
 aaaaagacag tcatctgata agatgtac atggatgaaa tgccctacag gggccttgaa 360
 catcttaat ttctgcgatt atgtgaaaaga ggtggacttt acagataatg gagcagaagc 420
 caacatttagt aaaaggaatc ccaacttctt cccatagaat tagaaacatg tgaaagtaca 480
 ataaacttct tggtaaaattt accagcatca gagagcttcc cattgcato tagacattga 540
 atttatattt attgatcaag ttcttaatttgc tatgtatatt ttgtgcataat tcaccaataa 600
 cagttaaat taatttatgtt ttatagttaa tatatgcacc taccttcttgc cgttagtgca 660
 tcagtaatg tggatattttgc tcattttcc aaagagatgt ttgttaggttt tccctgtatg 720
 tcttccttta tagcttttgc tctgataacc atgacttcag gagctttaaa actatctatc 780
 ttgcatttgc gtctggcgaa gaactagccca tcagcctcctt gaagcctgaa atcattgtta 840
 atttgaggac tgggctgtct tgggctcag aaggttaaaa actatatttgc cagatgtgtg 900
 tgggtggcac tggattccac ccaactgcca agttgtattt gtttagagatt tcattttaca 960
 acacaaaaat aagcctgtgt caaagatttt aaaatcatgg aaagttaaaaa tctagaaaga 1020
 ccttagagaa ccagccaaacc aactctctca ttttaaaagt gaaggattca tagcacagat 1080
 tacttgctta agatcatccca ggaacgaaga caagaatccca aatgtacttg gggacaaga 1140
 ttagtccccca aattcagtgt tcttcttagt attaaacatt gcccctttcg acaaatttg 1200
 gatttcaatc ttggtatattt tcagtaaaacc tgctgattta ttaggttact gggtagatga 1260
 cattagaatg tagatagcgt gcacgctatg atagactctg ctaagacatg ttcccagtgt 1320
 ccagcagcaa tggatgtatgt tggacagatgt gtcatgtaga agttataaag cagatgt 1377

(2) INFORMATION ON SEQ ID NO. 103:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 315 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

ataaggaatg agaagaaaagg ctgtgtctta tcagtaggtt agatggaact ggtcctggta 60
gtgttggagc aggacaggca cttagttctg atgctgtggt cctttgtat agtagagcac120
cggggtaac caccactctt ttaggcactt tgtagtgaca acagaagtaa aatatttcaa180
ttatattaatt tagaatgtta tgttttactg gaacctgcaa tatgcatgtc cagaattaat240
aatttttact cttttggtaa agttatacta aggcaaagcc agtggattca aaagtgagac300
attgacaggc cattt 315

(2) INFORMATION ON SEQ ID NO. 104:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2355 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:
 (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104:

atgatcatgc cactgcactc catcctgggt gacagcaaga tcttgtaaaa aaaaaaaaaa 60
 aaaaaaaccag gagtgaaaaa gaaaaagtaga aggcagctgc tggcctagat gttgggttgg 120
 gaatatttagg tgatcctgtt gagattctgg atccagagca atttctttag cttttgactt 180
 tgccaaagtg tagatagcct ttatccagca gtatTTtaag tggggaatgc aacgtgaggc 240
 caactgaaca attccccccg tggctgcccc gatagtcaca gtcaaggtt gagaGTctcc 300
 ttccagccag tgacccatccc aaacctttt ttcgtaaaa ctgctctgga aataccggga 360
 agcccagttt tctcacgtgg tttcttagctt cttcagactc agcccaaattt aggaagtgc 420
 gaagcacatg atggtaaaaa accttaggatt tggcagcctt ccagaatggt atggaaatctg 480
 agggaaagatt tatgtttcgt tttggaggat agctcaagtt gaattttctt tccagccagt 540
 taccctttca acctaccat actttgtaca actcttacac aaataacttag atatttatta 600
 gatagccctg aattcactct aattataaac agggagtgtt aactgcCCCC agatgttcct 660
 gggctgggtt aaagcagctg gagtgaagca ctcattttcc ataaaggttaa caaagggcag 720
 ctcagtggtt actcaagctc aaaagggtt ttttaagagc aagcatggt taagtctgtg 780
 tatactgagt tggaagtgtt ttcagcacat tcttttttag tggagtggaa gttctgaagc 840
 ccccttttaa cttcctcttgc gtttttcattt ataaattggta gccatctcat gaactgtctc 900
 tgactgttgtt ctctttgtgg tcatgtgatt gtgagcttgc tttctgactt gcatttctga 960
 ctttatcctg ttgttaggaa gatagaaact aggtttgaa agattacatg attcaagcga 1020
 gggattttaa agtaaagatg tattttattctt gaagaatcta aaagataaca gattatttgc 1080
 ttatgaaaga acaatatagt ctggaaatcc cagaatgtca agccaaagggt ctaagaagtct 1140
 atctccttca aataactttaa taaagaagta tticgaggag atatctgtcc aaaaagggtt 1200
 gactggcctc cagattccag ttatttttaa aaagcaactt accactaaat ctttgagtct 1260
 ccatacgtttaa acagtaaaga aactgtatgc acagactctc ctctcaagg atctcctctg 1320
 gaagagacta tcagcggcag cattctccag ggaagaccca tcccctagtg ccagagcttg 1380
 catcctggag actaaaggatt gcactttttt gtatTTTTT gtcCAAATGC aatcccattt 1440
 ctgtgcctct tagcatgcag ttagatttttgg acaaacaaga ttcttaagga atgactttat 1500
 taactataat atggttacag ctattatata aatataatattt ctggttatag ttctaatatg 1560
 gagatgttgtt gtgcaatgtt ggcctgtggt ggtctgtgtt atgcttttaac ttgtatggag 1620
 gaggccaggc tcagagctga gatgtggctt gaaccttccc tttatcgttgc tttaatttt 1680
 gaactgtcaa gatgtcactt tctccccctc tgccttttag tggatctga catataactca 1740
 aaacagtaat ttccctggca catcattaaac tgctaattctt gtatttataa agaattttca 1800
 gatggacatg tacaattttt aactcaaaacc atccccagtc cagatacagg gcaagcgtgt 1860
 ggtgaccaca ccagagcctc agcctcggtc cttctcagcc gtcgggatag gatccaggca 1920
 ttcttttaa atctcagagg tagcagttttt cttttcgtt tttgtttagt caagtgtgtg 1980
 ttggccaata gatacccaattt atactaatgtt gccaagttttt tggttcattgc acatctgtct 2040
 ccactgtgtt cccacgggtt ccatgaagtgtt gttgaggagc ccctctatctg gagggatgag 2100
 tgctgcgttg actactgtca tcaggattgtt gttgtgtggta atattcatctt acataaaattt 2160
 tatatgcaca gtaatttccc ttTTTataatgtt tcaagtaactt atttggtaaaaa gtataactca 2220
 caaatttattta taatgattac taatataattt tttccatgtt tcattgcctg aataaaaact 2280
 gtttaccact gttaaaaaaa aaaaagttttt aaggaggaggg tggggaaaaaaa aagctgggggg 2340
 gggggccccgg tagcc

(2) INFORMATION ON SEQ ID NO. 105:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1339 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

attcggcacg agcatgaaac atgctcatt tacctaacag taaacaagta tgtttgata 60
 gatatctgtt aatatgcta tagtgtaag aaatggactt gaggtcccag gagatttcat 120
 tttattcacc ctggtcagat acaataaagg ctatgagttt aaatacataa cttcctaacc 180
 aggtgttaggg catgttcatg aatataat cttttatgc tgacccaaag agagggaaaag 240
 ttgttagctaa atgttgattt acttataact agacgtctat gtgagaaaaat atatgtatac 300
 atatatatga tatgcagaag tcactttttt tatcaggctt tattctcctt acaaagccac 360
 agtttaactg tctgcaacag ttggtttagt ttaatgatag acaaatacc agtgtttgtt 420
 actttttcca actaccactg taatgataat ctttctcacg tatatacatg caacttcttg 480
 gcttcatttc catgaagctg tttcaatata ttcaagtatac tttgtcctta atgctgcttc 540
 tgttaacagt gatctcttc ttttttcat tcttataatct tcatttagttc atcataaattc 600
 tgtccagttg aggcctcagg accacggcat gatttcatga ctccgaagta ttttacagaa 660
 acattttta aataaggaa atattttata taccagatgg ttccacaagtg atggotcata 720
 gctagttttt ttttttcttc taaaaaatgt caggtttta aaatcattta ctttattaaa 780
 atgaaaagtg ccatacttaa cttttaaagg aaagacctga ctgctttt ctctatattag 840
 actgttttg tactttacta atctttaaac tatcaggaaa aaaacccaaa ctttatacca 900
 atgatttagt aattttggg cataggtagt cttacgttagt ggaggatgtg ccaaataattc 960
 tcttcaaatg ccaccccttc aatttataac taaaatagtg ttatctgact aattcctctg 1020
 aattttgatg taagatctat ataggcccccc aaaatgatcg tagtacatgc cagtcatttc 1080
 tcagtgaaat aaatacaata ccagagtaca ttatgggttt tattgcttcc ttttatggta 1140
 gacctgttaa tggggaaaaaa atacatcaa tcaaataagaa tcttataatct gtatgttaa 1200
 atagagcaact tacctgaagt cagtgccctg gatcatagcc ctggatcat tcccaagtctg 1260
 tcctgtgctg ggtggacctt ggacaaggcg ctgcagtagg tgcagtgag tgcagtgag 1320
 ctgttcccaa gtgccttgc 1339

(2) INFORMATION ON SEQ ID NO. 106:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3751 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 106:

gatcgccgagc ggcccttgga atctattgcg caaaaagaagt ttcatggg ttacttagac 60
ctaagatcac ttattaaaaa tccttatttt ctccaagccc agcaaacgtt gacttotggg 120
caaaccgtaa aaccctgaaaa tgccactttc atgcagttt tttgaagtt agtggaatcc 180
tttcaaatga cgagctgca agaactcagc accaagggtt gcctatctgt agatagctgt 240
aaaatgaaat atttttaaat gaaggcaat aagtacttaa aagttagctg agcaataaaa 300
tggtccaaata ataggtaaat gcaacagaaa cagaaggaga cctgggtgcc ttatgcctt 360
actcttacat ggaataaaatt cccaatgcat atcctatgt aaccataagt gaaggaaaat 420
aaacctcgtc atgctccatg ctgtgaggtg tccttggat attctgtgat gacagagaag 480
cctattttgt tttgtttca gcatcttct ctgatgtac ttttaagga tttgttaaga 540
gctgtttca gtgttaaat tagtgcatt tttccttgc tttaaaaatg aatctcgac 600
tgtatcttac tatgtccata cagatgtac aaatcgacag ttttattctt agactcatgt 660
gateccaagct gtatatacca tatataaaaca ttttacatga atcatttagt ttttaatttc 720
atttactaat gctataaaaat ttccttattt accccagtaa tttgcatcag ctgggttata 780
tactaaagca acatgtttt atgagtttct tacatccta tcgaggaatt gggtaggaa 840
aaaatacata attgtaaaac tgagtttgc gtattataact ttttttctt agtattagtt 900
gttattactaa tcatatgtt attaactgtc tacttaaagt caaggtacact gtatttttaa 960
tccactaatt ttttttttagt tggaaaatag atttcaggc ttttatttaga ctaacatttt 1020
ttgagaagta aaatttgcatt catataaaaa gcctgttaatt ttaggcgaaa tggaaagcaga 1080
aatcttaggaa gttgtgttgc cttgtatgtt gagtttggc tcagactaag taatgoatcall 1140
gaattcatct gttgaagcc tgaataatt taggactctg attcaactgac caaaagtca 1200
tggcagag atttctctac cccgtatggt attttgcattt atgttcaac aggaagcac 1260
tgattgagaa catcttggga cagacaaaaa ccactgacag atggcaaggc tcggcgattc 1320
tgatttccct totcaaattct gtcacttcc aagagtctt agaaactgct aaaatttgc 1380
ctctgtcact caagtcttac aaatgttac ttgttaaacct ttgaggtgaa ctatttcaact 1440
gtcttgatac taggcattt attcaactgca ccctgtcaca cccagcaccc cccgccccgc 1500
acattattt aagactggg aatttaatgg ttagggacag taaatctact tcttttccca 1560
gggacgactg tcccctctaa agttaaagtc aatacaagaa aactgtctat ttttagccta 1620
aagtaaaggc tggtaagaaa attcattttt cattgggtag acagtaaaaaa acaagtaaaa 1680
taacttgaca tgagcacct tagatccctt cccctccatg ggcttgggc cacagaatga 1740
acctttgagg cctgtaaagt ggattgtat ttcctataag ctgtaatagt ggaggtattg 1800
tgggttcatt tgagtaagcc ctccaaagat accattcaaa taacctggga gaatgtcata 1860
aattattcag ataattaaaca ctgcatgaat ctgattcaga ggcattgcatt tacatatgtt 1920
gccctaatta ccatttgatg atcataaaata caagtgaatg acattggact ttagtaaca 1980
aacttaattt ttaaaaaggt gtagacaatg gtggtaaaaa aaaaaaaaaa aacaggtaacc 2040
aggttctgtg tgggtgcacc aagtaattga catgtttttt gtttaataca tggaccat 2100
gaacagtatt cattctactt tttcaatga tatgctgtag aaaatattcc ttgaagatgt 2160
gagattttaa aatttttccc tttcaatgtt gtttttaattt tatttcttac ttggtttttt 2220
tgattgatag cacagtgata aatcataata ctgacaaaaa ttgtcttctc ttcaaaacca 2280
gagccatata tatgtctgtat tataatggac ctactgcttc tctgaggaaaa tgcataatct 2340
gttaatatca gacaaaaatga gcaattggca gtgctcataa tatattccaa tttttatttg 2400
aattttcgat ggaatgttat ttcaataaaag ccatgtaaagg tgaaactttt ataaactttt 2460
actcttcaag tttaggtaaa ttctgtatcca atattcaatt catttgcata cttccacatg 2520
aaaaatgcta aattacaatg cagacattaa gaaaaagatg ggttgaattc 2580
cttgagaatt tattttatacg tctaaatcac aaatacttta ctcaatttag tttttaaaat 2640
agtaaactga atatttttgc tgtaagccta tcagactcaa tcctcggtt ggaattgttt 2700
tcctgtttt cttactata aatcatatca aaactgaatt catttctta gatggcataa 2760
gtctgtctc tgagaaataa gtaaaaactt cttatgttca gtatctgtag cacctgaaat 2820
aggtctttgt atagccagaa acaagttatg ttgaagttt tagttcttgc tttttcttgc tcaacagttt 2880
tggacaataa aaatctgaaa gtattaaacac ttgattttct actggggccc ttcaaaacttg 2940
gttggaaagaa attcaacccaa aatattctaca tttagtatac atcatgtgt gtaggaagat 3000
ggactagttt atcaagattt gttgtcactt aatattttt tgattttttt ccaagccagt 3060
ttttttaaat tctaaatgtt ttttgaggtt tgggtacatt aattgtatg taaacttattt 3120
tacaactgtt ttgcgactt tataaggcagg taaattttgc tattactatt gaatacaaat 3180
gacaattcat ttatgaccac tcaaacagcg tttagtaacca tttagtgaca aaggataaa 3240
acatccatct ggtgttaat ttgaagatg taaattataat gttgtttaaa tttttccagg 3300
catctgaaaaa cttatctgc tagacaatgt aagattcaca cagagtatc tgggatctg 3360
atttttaaa tagtacat tattaaacca ttttctctaa atgtaaagaa agcagaaaaa 3420
atcttataag attatcagat ttttctatc acacagaaa gtaagaaaaa aatcccttta 3480
tattgaaaaa agatgcagtc aaagttttt cagacatgcc caaactttga gaatttcttc 3540
aaccatctaa tgctataaaag attttgcatt ttcctgttca caaccagtt tataacagaa 3600
atacttagcta ctgttttccct tcctgtgtt gaaatgtatg atcattgatt atgtgacttg 3660
ttatgtattc aattaaacac taaaatataa aacattcact ctttaatta ataaaaaaa 3720

(2) INFORMATION ON SEQ ID NO. 107:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 300 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

cgctcgcccc ccgcggagag atcgagggtgt acttggccaa gagtcggcg gaaaagctgt 60
atctatgtca gtacctgtg cgtccagcct cgatgaccta cgatgacatt ccccacctt120
cagccaaagat caagcccaag cagcagaagg tagagcttga gatggccatc gacaccctga180
accccaacta ttgccgcagc aaagggggagc agattgcgtc gaacgtggac ggggcctg240
ccgacgagac cagcacgtat tcctcgaagc tgatggacaa gcagaccc ttcc300

(2) INFORMATION ON SEQ ID NO. 108:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1465 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

gccaaccttc cctccccc aa ccctggggcc gccccagggt tcctgcgcac tgccctgttcc 60
 tcctgggtgt cactggcagc cctgtccctc ctagagggac tggaaacctaa ttctccttag 120
 gctgagggag ggtggagggt ctcaaggcaa cgctggccc acgacggagt gccaggagca 180
 ctaacagttac ccttagcttgc ttctcccttcc ccctcctttt tattttcaag ttctttttta 240
 ttctccttgc cgtaacaacc ttcttccctt ctgcaccact gcccgtaccc ttacccgccc 300
 cgccacacctc tttgttacccc actcttggaaa ccacagctgt tggcagggtc cccagctcat 360
 gccagcctca tctcccttct tgctagcccc caaaggccc ccaggcaaca tggggggccc 420
 agtcagagag cccggactctc cagttgcctt ctggttgagt tggggggcag ctctggggc 480
 cgtggcttgc gccatggctc tgctgaccca acaaaccaggag ctgcagagcc tcaggagaga 540
 ggtgagccgg ctgcagggggaa caggaggccc ctcccagaat ggggaagggt atccctggca 600
 gagtctcccg gacgaggtt ccgatgcctt ggaagcctgg gagagtgggg agagatcccg 660
 gaaaaggaga gcaagtgcctca cccaaaaaca gaagaaggcag cactctgtcc tgacacctgg 720
 tcccattaaac gccacccctca aggatgactc cgatgtgaca gaggtgtatgt gccaaccaggc 780
 tcttaggcgt gggagaggcc tacaggccc aggatatggt gtccgaatcc agatgctgg 840
 agtttatctg ctgtatagcc aggtcctgtt tcaagacgtg actttcacca tgggtcaggt 900
 ggtgtctcgaa gaggccaaag gaaggcagga gactcttattc cgatgtataa gaagtatgcc 960
 ctcccaccccg gaccgggcct acaacagctg ctatagcgca ggtgtcttcc attacacca 1020
 agggatatt ctgagttgtca taattccccgg gcaaggccgg aaacttaacc tctctccacca 1080
 tgaaccccttc ctgggggttttgc taaaactgtg attgtgttat aaaaagtggc tcccagcttg 1140
 gaagaccagg gtgggtacat actggagaca gccaagagct gagtatataa aggagaggga 1200
 atgtgcagga acagaggcgt ttccctgggt tggctccccc gttccctact ttccctttt 1260
 cattcccacc cccttagactt tgatttacg gatatcttgc ttctgttccc catggagctc 1320
 cgaattcttgc cgtgtgtgtt gatgaggggc gggggacggg cggcaggcat tttcagacc 1380
 tggtcggggc ccacttggaaag catccagaac agcaccacca tctaaccggcc gctcgaggga 1440
 agcaccggc ggtttggc aagtc 1465

(2) INFORMATION ON SEQ ID NO. 109:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1488 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

cggccggagg agcaggatgg agatccctgt gcctgtgcag ccgtcttggc tgcgccgcgc 60
 ctcggccccc ttgcccggac tttcgccgc cggacgcctc tttgaccagg gcttcggcga 120
 ggggctgctg gaggcccggc tggctgcgt ctggcccccacc acgctgcggc cctactacct 180
 gccgcgcaccc agcgtggcgc tgccctggc ccaggtgccc acggaccccg gccactttc 240
 ggtgctgcta gacgtgaagc acttctcgcc ggaggaaatt gctgtcaagg tggtgggcga 300
 acacgtggag gtgcacgcgc gccacggaga gcccggat gaggacggat tggctgcgcg 360
 cgagttccac cgtcgttacc gcctggccgc tggctggat ccggctgcgc tgacgtccgc 420
 gctgtcccccc gagggcgtcc tggccatcca ggccgcacca gctgcggccc aggccccacc 480
 gccagccgca gccaagttagg agggggctgg gccgcggcc caccggggaa gcttcctcag 540
 gctccctcta ttaaagccga tctgactccg cccagccaga tggccggat gcccggat 600
 ctgtccctctc acccacttcc ggattctggc ctgacccatcca tccctggacac tgccttgata 660
 acatagacc cttccactgac accctcgctc tcagagcccc tccagcttc cgacccacc 720
 ccgacaactc cccggcttcc agaccctacc agcactaccc taaccctcag ccgacagtct 780
 cagccccacc gaccactt cttggcatat agcccccactt aagacccttc ctctacttcc 840
 ttctgagttcc tctacaaaga catccgggta ctacatttcc atcccttcc tattttgaca 900
 ccaaattatgt gtgttagacag ccctggccca accccaggcc agtcaggcac aatccccccca 960
 ccccccacaaac gtcctggact gcacagaccc cccactccag accatccagg cctgggtcccc 1020
 aagacccgat cttcccccgt caaccagaca gtctacaact gccccctcca gcccattttcc 1080
 tgccgtgaaa ccccagccag ccacaccaga ctctggaaacc ctttttcgac tgcccccaact 1140
 ctggacacc aggccaaacta gaacacccaa caccggactg tacagactct cccacccca 1200
 cttcccccaga ctctgcacgg atgtccttagg cccctccccc aactctaaacc agaccccatc 1260
 cccctaagtc cttttgtctt gaccccccag tcttcaacca gatatctcg gcaacccacc 1320
 tcccacccttc ctccctttctt ctttcaagac ccaactgagc acccgctctg atccccac 1380
 gcctttctcc ctgccaccac tcccttagtc tttcccaaggc ttactctccc aataaatgtg 1440
 cttagagctct gcaaaaaaaaaa agaaaaaaaaa gtcgacgcgg ccggaatt 1488

(2) INFORMATION ON SEQ ID NO. 110:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 783 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

aacatattgt tgaaaggtaa tttgagagaa atatgaagaa ctgaggagga aaaaaaaaaa 60
 aaagaaaaga accaacaacc tcaactgcct actccaaaat gttggtcatt ttatgttaag120
 ggaagaattc cagggtatgg ccatggagtg tacaagtatg tgggcagatt ttcagcaaac180
 tcttttccca ctgttaagg agtttagtgga ttactgccc tcaacttcata atccagtagg240
 atccagtgtat ccttacaagt tagaaaaacat aatcttctgc cttctcatga tccaactaat300
 gccttactct ttttggaaatt ttaacctatg atattttctg tgcctgaata tttgttatgt360
 agataaacaag acctcaagtgc cttcctgttt ttcacatttt ctttttcaaa tagggctaa420
 ctcagcaact cgctttaggt cagcagccctc cctgaagacc aaaattagaa tatccatgac480
 ctatgtttcc atgcgtgttt ctgactctga gctacagagt ctggtaagc tcacttctgg540
 gcttcatctg gcaacatctt tatccgtagt gggatgggtt gacactagcc caatgaaatg600
 aattaaagtg gaccaatagg gctgagctct ctgtgggctg gcagtcctgg aagccagctt660
 tccctgcctc tcatcaactg aatgagggtca gcatgtctat tcagcttcgt ttattttca720
 agaataatca cgcttcctg aatccaaact aatccatcac cgggggtggg ttttaagtgg780
 gct 783

(2) INFORMATION ON SEQ ID NO. 111:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1045 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

tctgttctgt ggacaactgt tactgttctt ccgtggccaa ccatggcgcc caccagccct 60
 acccccgcctc cggccacttt ccctggacag tgccctcgca ggagtactca caccgcgtcc 120
 cggccacacc ctccgtcccc cagtcccttc ccagcctggc ggtcagagac tggcttgacg 180
 cctcccaagca gccccggccac caggattct acagggtgtt tggcagccg tccaccaaac 240

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actacgtgac gagctaaccgc cacgcaggcg gcggggcgct gggaaatctt cctccccagc 300
ccccgggctc gggagttatg catccagaga cctgccccttc taccttcctc gcctccctc 360
ttccctcattc cattgccccca ggtctttcc ttttggattt tgtttgggtt ttggctttgt 420
ttttgatttt ttttattat gaatctccctg gacgcagagg tgacagttggg agctggctg 480
ggccaggacg gcagggggcc ctggagatgg gaaagtgtct gtgtcgaggg gctgagctct 540
ctctctgttt ctccctttt cctctactcc ttccccttca caccgggtg gctggaaagga 600
acctcggtt ccctgaaagc ttgggggtcc cacccttctt accccaccccg ggaggaacgc 660
ccagggccccc gggcttqttt ctccctttgt ttcccttttggcagtttga tcactgatcg 720
agtaaggaaat gacctttaga ttgtgcgact ttgttttttggcagtttga tcactgatcg 780
ccaagaatga ttccctcctgc ttcccttctcc tcaccatctt cccagacggg gttcaaaggc 840
cacttctcaa gcagtttttgcaccttcag cctcagatgtt gaaatcttttgcacccaccccg ggaggaacgc 900
ccctatgtcc agggaaaggggg aaaaggaaact ttgccaatgtt gttccatgtt gttccatgtt 960
aataataata atattaataa taataaaaga gaaaaaaaaaa aatagaataa aaaaccaataa 1020
qcacagcccc ttgttgaagg tccag 1045

```

(2) INFORMATION ON SEQ ID NO. 112:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 1386 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

cacactcact gcccatgaag gaagaggggg caagtgtacc gaggaagggg atgcctcaca 60
gcaagaggc tgcaccttag gttctgaccc catctgcctc agtgagagcc aggtttctga 120
ggaacaagaa gagatgggag ggcaaagcag cgcggccca gcaacggcca gtgtaatgc 180
agaggagatc aaggtagccc gtattcatga gtgtcaagtgg gtgtggagg atgctccaaa 240
cccgatgtc ctgctgtcac acaaagatga cgtgaaggag ggagaagggtg gtcaggagag 300
tttcccagag ctgcccctcaag aggagtgaaa gggacaattt ggctgaagtgc ttctctgaa 360
aaaagccaaa gggttatagg ggtacactta ggggttgcatt gcaagctgtt accaaaaaaat 420
ttttaagtat ttcttaatt tgaataataa aaccagagga aatgcataca gggcatgac 480
aactgaggca aacctttgtg gacatgaatt gttctacat gaatttttgc ttttagtattt 540
taataagaat tacaagaca atggcataact tggggtgaga gggagctgag gatgtctgag 600
gagggaaatag tattgcaggg aagactgaga aaacagttagg atgacagtt tgagtatact 660
ctgcacttt caattgtgca atcttcttgc gcaactttaag gcttttaat tttgtttgag 720
aatgcaaattg tataactgtaa gtctacctt actatctact atgcctactt caccatctct 780
taaggactcg gcatttgcac acagtcagac tgcaagagag gtaggtcat gaacagtcac 840
ccgtgctggc ttagccccca acagaggca tcatgccccaa tagattcaag agaagctaag 900
cgaaaaatgga ggggtggaaagg tttgtatctgt gggactgtct gggcctgtta ctcatcctgc 960
tatcaatttc ttatataatc atcttgcatttgc ttcttattaa ttaatcactt ttgcaggaaa 1020

ttcagatgag gcaagaaaat tttattggcc tgggtaagac tgaaaaggcatt ccaaatttagg1080
cttagactgt gcaaagggt tagctaagtt atcgagctt aaacccgtca attaaacaaaall140
cattatttga acagttactg catgccacgc actgtgttgg gcttagtaat aaaaaaaaaaag1200
aaagataaagt gcttgttcta gcataaatta aaaggtccaa gggaaatttaa tctggaaagag1260
aacatatgcc aatttttaaa ctatgacagc ttttttttgc tctttccatt caaataggcc1320
cgggttcagt cccagaaggg cacaaaaatga atgaataaat aaataaaatga ataaagacaal1386
..... 1386

(2) INFORMATION ON SEQ ID NO. 113:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1747 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

ccagtctgtg agcccttgc ctgtgggtcc ccaccgtctg tgcgcattgc agtggcaact 60
 ggagaggcac acacctatga aagtgaagtg aaactcagat gtctggagg ttatacgatg 120
 gatacagata cagatacatt cacctgttag aaagatggtc gctgggtccc tgagagaatc 180
 tcctgcagtc ctaaaaaatg tcctctcccg gaaaacataa cacaataact tgttcatggg 240
 gacgatttca gtgtgaatag gcaagttct gtgtcatgtg cagaagggtt tacctttgag 300
 ggagtttaca tatcagtatg tcagcttgat ggaacctggg agccaccatt ctccgatgaa 360
 tcttcagtc cagtttcttggaaacct gaaagtccag aacatggatt tgggttggc 420
 agtaaataca cctttgaaaag cacaattatt tatcagtgtg agcctggcta tgaactagag 480
 gggAACAGGG aacgtgtctg ccaggagaac agacagtggta gtggagggtt ggcaatatgc 540
 aaagagacca ggtgtgaac tccacttgaa tttctcaatg gggaaagctga cattgaaaac 600
 aggacgactg gacccaaacgt ggtatattcc tgcaacagag gotacagtct tgaagggcca 660
 tctgaggcac actgcacaga aaatggaaacc tggagccacc cagtcctct ctgcaaacca 720
 aatccatgcc ctgttccccc tggattccc gagaatgttc tggatgtctga aaaggagttt 780
 tatgttgcata agaatgtgtc catcaaatgtt agggaaagggtt ttctgctgca gggccacggc 840
 atcattacccat gcaaccccgat cggacgttgg acacagacaa gcccacaaatg tgaaaaaaatc 900
 tcatagtggtc caccagctca cgtagaaaaat gcaattgttc gaggcgatca ttatcaatat 960
 ggagacatga tcacctactc atgttacagt ggatacatgt tggagggtt cctgaggagt1020
 gtttggtagt aaatggaaac atggacatca cctccttgc gcaagagctgt ctgtcgattt1080
 ccatgtcaga atggggcat ctgccaacgc ccaaattgtt gtcctgtcc agagggctgg1140
 atggggcgcc tctgtgaaga accaatctgc attcttccct gtcgtacgg aggtcgctgt1200
 gtggccccctt accagtgtga ctggccgcct ggctggacgg ggtctcgctg tcatacagct1260
 gtttggcagt ctccctgtt aaatgggtt gaaatgtgtaa gaccaaaacgg atgtcactgt1320
 ctttccctt ggacgggaca taactgttcc aggaaaagggta ggactgggtt ttaaccactg1380
 cacgaccatc tggctctccc aaaagcagga tcatacttcc tcggtagtgc ctgggcattcc1440
 tggaacttat gcaaagaaag tccaaacatgg tgctgggtct tgtttagtaa acttttactt1500
 tggggttact tttttatgtt tggtatataat tttgttattc ctgttgacat acttttttac1560
 atgtttccat ttttaatataat gcctgtattt tctatataaa aattatatta aatagatgtt1620
 gctctaccct cacaaaaatgt acatattctg ctgtctattt gaaaagttcc tggtacacat1680
 ttttatttcag ttacttaaaa tgattttcc attaaagtat attttgctac taaataaaaa1740
 aaacccgc

(2) INFORMATION ON SEQ ID NO. 114:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1526 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

cgagcccaca ggccccggag tagcagcggg gagggccggga gccccgcgggc cggagccgcc 60
 cggccgaggc gtgggggctg cggggccggc ccatccgtgg gggcgacttg agcgttgagg 120
 gcgcgccggg aggccgagcca ccatgttcaag ccagcagcaag cagcagcagc tccagcaaca 180
 gcagcagcag ctccagcagt tacagcaga gca gctccag cagcagcaat tgca gca gca 240
 gcagttactg cagctccagc agctgttca gca gtc tccca ccacaggccc gttgccatgg 300
 tgcagcggg ggtccccgc agcagccaca gca gcccgtt ctgaatctcc agggcaccaa 360
 ctcagcctcc ctcctcaacg gtc catgc gca gagagagct ttgc ttttac agc agttgca 420
 aggactggac cagtttgc aa tgccaccagc cacgtatgac actgcccgtc tcaccatgcc 480
 cacagcaaca ctgggttaacc tccgaggcta tggcatggca tccccagcc tcgca gcccc 540
 cagcctcaca ccccccaaca tggccactcc aaatttgc aa cagtttcc cccaggccc 600
 tcgcccagtcc ttgttggac ctcctctgt tgggtcccc atgaaccctt cccagttcaa 660
 ccttcagga cggaaaccccc agaaacaggc cccgacactcc tcccttacca ccccaatcg 720
 aaaggattct ttttctcaga caatgcctgt ggaagacaag tca gagacccca cagagggtc 780
 tgaggaagcc gca gagcccccc ggttggac accagaagac caagatttac cgc cctgccc 840
 agaggacatc gccaaggaaa aacgcactcc agcaccttgag cctgagcctt gtgaggcgtc 900
 cgagctgcca gcaaagagat tgaggagctc agaagagccc acagagaagg aac tccagg 960
 gcagttacag gtgaaggccc agccgcaggc cggatgacag taccgaaaca gacacagaca 1020
 ccagacacttc tgcctgaggc cctggaaagcc caagtgcgtc cacgatttca gccacgggtc 1080
 ctgcagggtcc aggcccagggt gca gtc acatc gacccgc ggttaccatc cacagacacc 1140
 cagggtgcaggc caaagctgca gaagcaggcg caa acacacaga cctctccaga gcacttagt 1200
 ctgcaacaga agcagggtgca gca cagactg cagcaggagg cagagccaca gaagcagggt 1260
 cagccacagg tacagccaca ggcacattca caggcccaa ggcagggtgca gctgcaggc 1320
 gagggcagagc cgctgaagca ggtgcaggcca caggtgcaggc cccaggccaca tttcacagcc 1380
 cccaggccagg gtgcaggctgc agctgaggaa gca ggttccag acacagactt ttccacagg 1440
 gcacacacag ggcacagcca agcttccagg cacaggagc ttcttccggg cgggtgttc 1500
 agtttcaggc caccaggggc agggcc 1526

(2) INFORMATION ON SEQ ID NO. 115:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 1205 base pairs
 (B) TYPE: Nucleic acid
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
 (A) ORGANISM: HUMAN
 (C) ORGAN:

(vii) OTHER ORIGIN:
 (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

cccgagaaaa accaattaa tgcttctgtt ctcagcattt cacagcatgc aggactcaaa 60
 tggatacaac agaagaaaac aacccacaat ttttgaaaaa ccctttgtcc aatgattcat 120
 attttgatat ctattgacaa tcccttagaa ctttaatct caaaaacaaa aaagtactgt 180
 ggatctccct cgagccgaat tcggctcgag ggcggtcacc tggagatgag aaaggcccgc 240
 gggggggacc atgtgcctgt gtcccacgag cagccgagag gcggggagga cgctgctgcc 300
 caggagccca ggcagaggcc agagccagag ctggggctca aacgagctgt cccggggggc 360
 cagaggccgg acaatgccaa gccaaaccgg gacctgaaac tgcaggctgg ctccgacctc 420
 cggagggcgcac ggccgggacct tggccctcat gcagagggtc agctggccccc gagggatggg 480
 gtcatcattt gccttaaccc cctgcctgat gtccaggtga acgacacctcg tggcccccgt 540
 gatggccagc tccgcccaggc tgcggggggaa gctctgcagg tggccacag cccgcagctt 600
 agacaggcgc ctgggcctcc agaggagtcc tagcacctgc tggccatgag ggccacgc 660
 gccactgccc tcctcgccca gcagcaggc tgcacgc 720
 aggtcacact cgcctctccc cagggtttca tgcacgc 780
 agtataaaag attcaactgtg gcatcggttc cagaatgttc tgcacgc 840
 ctcttagtct gaggtccctct gacctctaga ctgcacgc 900
 acggcctccg ctgcacgc 960
 ctgtggtcag gcctcctgct cctgcacgc 1020
 cgtgcgtgga ggtgcgcac gctgcac 1080
 atccaacccc acgcttgcac 1140
 tccccacatgt tggtagaaag ttttgcataa acactttgc cttcaaaaaa 1200
 aaaaaa 1205

(2) INFORMATION ON SEQ ID NO. 116:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 3968 base pairs
(B) TYPE: Nucleic acid
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:
(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

ggtatttcta aaacataaaag aggagaatta agtcagctgc agaacaatgg ggctgattct 60
tctgctttt ctctggaaaa tctttcattt cttttggtgg aaatttacct agaggttaca 120
accacaggat gttagctggt ctcttatttt ccttttggg aaaccaatta agattaatac 180
aggataaaagg aaaaaaagcaa tctattcatt atataacaca gtgtttgtt ttacttgtt 240
cctgcaaagg aaatctgtt aatgcttgc ttttgaattc ttttctaata gaacaaccaa 300
aaaaggcttc ttatggtgc gcaggaaaaa agatcatttt tatacgctt cattcttaac 360
atagcattt aagagcggca tgaatttagag gaaagacatg gaacacacag gtatcggtt 420
tgagatcatc ggcttaaaag tattcttaga tggtaatgac ccagaagtat ttccagttgt 480
ctagtggtgt ggtatgcagg aatgagaagt ttttctt catttcctgt tggacaggtg 540
gcaatcttag cagagccact atttggagtt gataactaaa gatgcaaata acatgactat 600
gccttcttgtt catccttagga ctatggag ttctccaaaa ctttgcataa ggcatgtcag 660
gcatgcagta aaagcatctt caacttcagg tggcactgg cagcataggt ctcatcttgg 720
accatacagt cccactttt agaagagggt ggaagttctc caaaacaata tccacaacaa 780
agtctgaccc tactctgagg gagatgggaa gtgggaggaa gaaggactaa ccagctccct 840
ggagtaagag gaatttgctt tccctgtctt cccaccagg gctatatgtt ccaccttca 900
gggtggggcc aaggaagtga tgcgtgtt acagaaggaa gagtttagacc tccagacgtc 960
agcctccctc ccatgggtt cattttcaat ctgagtgtt tgccttagc tgggttggta1020
ttagctttagt tgggttggcc gctgggtatg aggtgttaggg aggcagttt tggtagttt1080
ttaggacttt gcctcttcct ttgccttag cataatttctt aggcagagca tccacgaagt1140
cggttttcat tgcctgtca agagcgacaa tcatttacga gttcctatgt tatgttaggt1200
gccttatgtt tattatccca aatccactgc atggttaaa tacaggact ggaatataaa1260
tgaaaaaggt cattacagtc actgactttc tgcaggaccc taaacatttc tcttccacal320
atcttccctt taatcatgtt tcaaaccctt cttccgtacg ggaatgtt gctataatgal380
atctgcataa cgcttgggat ttagggagga aggaagggtt catggacatg taagtagc1440
atattccctt cagttttctt ggagggcaga gtgaatccca gaactggtaa gattggaa1500
ctgagcattt ccactttat cttagaatat ttatcattt gacacatctt gtttttaga1560
gaggaaaaaca aacacagttt ctgcattggt agtgtaaagc atacattt gggacgtgt1620
tttgtaagac acatttgggt tgcatttcta gagcatgtca aactttgtac ttcaaaaat1680
attttagtatg attgttagt gtaacatata tcaaggctt gaattaactg ttttatttaa1740
tttccacaag aagcactt tttagccata ggaaaaaccaa tctgagctac aaatagttct1800
ttaaaaataag cccaggtt ttagcttattc tagaaagtgc cgacttctt caagaagcag1860
gcattgttagg acagctgaga attatcacat agcctaaattt ctagcctggc agcaagagtc1920
acatctgaga tgcctaaaaa aaaaaaaaaa aaacacctga tctacattga aaggggtag1980
actaacgtat gtgagaccat ttcccttattt gcagtacaa gttttaagaa ctttgaaggt2040
cattcggtcg ctaagaggca tgcgtacac tctgtgtggc tctttcacag taaaaccctcc2100
taagagcaga agacacatgg ctgttagtgc ctgcgtttag atttattt tcaaataaaag2160
gcccttggct gctatccatt tcatccattt ataaacttagg gctcctgcaaa gcacccccc2220
tctaagggtg aattatgaa atcagttgtc attttagtgc tccacaactgg cccagcaggc2280
agggcatttg aagtcatgtt catcaaaaag aaatgattgt tttttgaaaa gctaaaatgct2340
taaaaatgctt ctagaggaa gtcgtggggc gtgtgtcat tctctttaaa atcagggtt2400
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ccaaacactgtt attcccttacaa acatgaccct cgctgttgc gggtccacat atcattggac2520
tctgggggac acaaagatgc ctgtgacact ttgggtgttgc cgagtttagtc aacaattatt2580

ctggaaaaaa gcagaattga attttctct agatgtccta ccagggttgg ccaaggccaa2640
 caaagcagggc taataaattc ccacaggatc cagacaccag gaaaaattgc tctaagaagc2700
 cagttactgt catccctcta tggttctaga aaaaatagta caaaaatgac aggtcatcct2760
 atgagcgtca tgccaatgaa accccatctt ctggagaagc ccttgaatca gaattatctt2820
 ttttcttgcgtcagat gcagccagtt tcttaatttt tttaaaaact gtatgtttct2880
 gtggtatgtatgtatgtata cctaactacc tggcacttgg aaatcacagc actactcaga2940
 ggcaattgaa taaagagaaa tttatcttta aatatcaagt cctgtcaaaac atttctcaaa3000
 cttctgatatt tatcaaaggt ttgccagcca ataaaagtgc tcccaagtat acaggggaga3060
 aagctagact cctacagggt cctagagtt aagtaatttt tttgttattt atataggtaa3120
 taatttttctt aatttttattt ttttggttcc aaatgttaaag ctccttgtt ttacctctgt3180
 ttatgtcatt cttgacatgt ttatcttaat tatgtgtgtt ctgtgacagg taaaatgtaa3240
 atctgggatc catagtcaag atatcataag gacctacttc ccagcctacc tttcttcctc3300
 tacctgataa tgataatact caaaaataaca acattcaaaag gaaacacaaa gaaatcctgc3360
 tttcacatct cttatctt gggctcctta ataactactg atgggttggtt catgaaaaaa3420
 aatttttaaa tcaaaagatt gtacttggcc ctgagttgaa aaaatttcaa aatcaaaag3480
 tttgtacttg gccctgagtt gaaaaaaaaa attcacatcc taagaataaaa cagaaaaatg3540
 ttcttcttgg aagtaaataa caaaagccat agtgtttca tttgtctttt cttcaggata3600
 cacggtagaa gtcagagaat ctggataact tttatcttggt gcaataatca agggcatgca3660
 acaacccaaa atcaaggatt ttgggtcaag tcaggatgac atgagtgggg acagaagctg3720
 tggcagtcat tcaaaaataatc tcatgggtcc tgaggaaaag acaggagttt acgtatataag3780
 tttctactat atgcaggaac tgggtttaaat atttacata agttttgata atagctaaca3840
 ttagctgagc acaaaaatttg ggccttgatt tggctgagt atctttcaca gattactgct3900
 tttatcagc agtccttgg agctaggtat gatcattatc cccattata gattacggat3960
 gagattcg

3968

(2) INFORMATION ON SEQ ID NO. 117:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 798 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

gtaatggaa atttgggtgtc ctgaatcttc ttcccttaggat attgatataat tccacgcttc 60
 tagtgggtat tctgggaatt ttaccctgtc cagtattgc ccttagggatc tagaaagagg 120
 agattgtcca aacttagcag tatggtccat ctcgtgtaga agtggaaatg tcatacagg 180
 tagcaaacac tcttgggtcc tttttgccc ggcggccaa gagccggca cagcaacaaa 240
 atgtggagga tgcaatgaaa gagatgcaaa agcctctggc ccgctatatt gatgacgaag 300
 atctggatag gatgctaaga gacaggaaa gagagggggca ccctatggcc aacttcata 360
 agaagaataa ggccaaggag aacaagaata aaaaagttag acctcgctac agtggtccag 420
 cacctctcc caacagattt aatatctggc ctggatatacg ctggacagga gtggacagat 480

 ccaatggatt tgaacagaag cgctttgcca ggcttgccag caagaaggca gtggaggaac 540
 ttgcctacaa atggagtgtt gaggatatgt aacttccctg aggctgtggg ggtggctggg 600
 ctgtggtagt gggcataggc agcgagatat ccagtggtaa cagttgtctg tgctaataat 660
 tggagccac acagaccagc aacttggta atgcaagttt tgaccacaga agaatattcg 720
 agacctgtatg tttggattga ggtacctgta cttcttgggg tggtgacagc agcgggtttt 780
 ggtggggtttt cagagaa 798

(2) INFORMATION ON SEQ ID NO. 118:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1068 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

cccctctctg tgactcagtc tctgagcggtt ttaatacgat ggtgtccccc cgggatcaaa 60
 cttcagcgtc acagctgagg actggcttcg tggccctga tggagagac tgaacaggtg 120
 gtatgtgaag cccttggaga ccagctttc caaagtcaaa gccaagagacca ttgtgtatgtat 180
 tcccgactcc cagaagctcc tgcgtatgttca acttggatgtca ctcaagagaccc agttacaggc 240
 ccagaccaag gctttcgagt tcctgaacca ctcagtgacc atgttggaga aggagagctg 300
 cttgcagcaa atcaagattt ctcagcttgc agaggtgttgc agccccacac gcccggcagg 360
 agagaaggag gacgacaagt ggggcatttgc gcaggccgg caggagctgt atggggccct 420
 gacccaaggc cttcagggggc tggagaagac cctgcgttgc agtggggaga tgcagccggc 480
 ccgcaccact cgctgcctgc agctgtgttgc ccaggagatc cgggacacgca agaagttcct 540
 gtggggaggag ctggaaactgg tgcgggagga ggtgacccttca atctatcaga agctccaaggc 600
 gcaggaggat gagatctcag agaacttggt gaacatttcag aaaatgcaga aaacgcagg 660
 gaaatgccgc aaaatcttgc ccaagatgaa gcagcagggt catgagacac ccgcctgtcc 720
 ggagactgaa gagataccgc aggagccgt ggctgttgc aggttgcaccc ccagaaggaa 780
 ctgagtgata tatggtctgc tgcgttgc tgcgttgc tgcgttgc tgcgttgc 840
 tgctcgccggc cctgtcccaa ggcctcgac ctaagaggcc acaaggggca ccagtgcctg 900
 agccctccac tccctcttcg ggactctgc tccgactctg accaggaccc tcccccagcca 960
 ccttcagca agagcgcgccc ccccttccca cccgcttgc cagccggac tgctctccct 1020
 gaagacccct ccagagagaa aataaacttag cccagacccct cctctaaa 1068

(2) INFORMATION ON SEQ ID NO. 119:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 4584 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

ctcgagccgc tcgagccgca gaagtaattc aagatcaaga gtaattacca acttaatgtt 60
 tttgcattgg actttgagtt aagattattt tttaaatcct gaggactagc attaatttgac 120
 agctgaccca ggtgctacac agaagtggat tcagtgaatc taggaagaca gcagcagaca 180
 ggattccagg aaccagtgtt tcatgaagct agggcttggg gcaagaggc aagcagcagt 240
 tggtggtgaa gataggaaaa gagtccagga gccagtgcga ttttgtgaag gaagcttagga 300
 agaaggaagg agcgttaacq atttgggtg gaaaagagga attgggagtg gtaggatgaa 360
 acaatttgg aagatagaa gtttgaagtg gaaaactgga agacagaagt acgggaaggc 420
 gaagaaaaga atagagaaga tagggaaatt agaagataaa aacatacttt tagaagaaaa 480
 aagataatt taaacctgaa aagtaggaag cagaagaaaa aagacaagct agggaaacaaa 540
 aagctaaggc caaaatgtac aaacttagaa gaaaattgga agatagaaac aagatagaaa 600
 atgaaaatata tgcataagagt ttcagataga aaatgaaaaa caagctaaga caagtattgg 660
 agaagtatac aagatagaaa aatataaagc caaaaattgg ataaaatagc actgaaaaaaa 720
 tgaggaatt attggttacc aatttatttt aaaagcccat caatttaatt tctggtggtg 780
 cagaagttag aaggttaagc ttgagaagat gagggtgtt acgttagacca gaaccaattt 840
 agaagaatac ttgaagctag aaggggaagt tggtaaaaaa tcacatcaaa aagctactaa 900
 aaggactggt gtaattttaa aaaaactaag gcagaaggct tttgaagag ttagaagaat 960
 ttggaaaggcc ttaaatatac tagcttagtt tgaaaaatgt gaagacttt cgtaacggaa1020
 gtaattcaag atcaagagta attacaact taatgtttt gcattggact ttgagttaaag1080
 attatttttt aaatcctgag gactgcatt aattgacagc tgaccaggt gctacacagal1140
 agtggattca gtgaatctag gaagacagca gcagacagga ttccaggaac cagtgtttga1200
 tgaagctagg actgaggagc aagcgagcaa gcagcagtc gtggtaaga tagaaaaaga1260
 gtccaggagc cagtgcgatt tggtaagga agcttaggaag aaggaaggag cgctaacgat1320
 ttggtggtga agctaggaaa aaggattcca ggaaggagcg agtgcattt ggtgatgaag1380
 gtagcaggcg gctggctt gcaaccacac ggaggaggcg agcaggcggt gtgcgttagag1440
 gatcctagac cagcatgcca gtgtccaaag gccacaggaa aagcgagtgg ttggtaaaa1500
 tccgtgaggt cggcaatatg ttgttttct ggaacttact tatgtaacc ttttatttatl560
 tttctaatac aatgggggag tttcgactg aggtgtaaag ggatttatat ggggacgtag1620
 gcccattcc ggggtttgtt ggttctt tttcaggctt atactcatga atcttgcgt1680
 aagctttga gggcagactg ccaagtccgt gagaataagt agatggcaag ttgtgggtt1740
 tttttttt acacgaattt gaggaaaaacc aaatgaattt gatgccaat ttgagacaat1800
 ttcagcaat ctgtaaagcag tttgtatgtt tagttgggtt aatgaagttt ttcagttttg1860
 tgaatagatg acctgtttt acttcctcac cctgaattcg tttgttaat gtagagtttg1920
 gatgtgttaac tgaggcgggg ggggagtttc agtattttt ttgtggggg tggggcaaa1980
 atatgttttc agtctttt cccttaggtc tgcgttagaat cctaaaggca aatgactcaa2040
 ggtgttaacag aaaacaagaa aatccaat caggataatc agaccaccac agtttacag2100
 ttatagaaaa ctagagcag tctcacgttg aggtctgtgg aagagatgtc cattggagaa2160
 atggctgtta gttactttt ttcccccca ccccccttaat cagactttaa aagtgcctaa2220
 ccccttaaac ttgttatttt ttacttgaag cattttggga tggcttaac agggaaagaga2280
 gagggtgggg gagaataatgtt tttttctaa gatttccac agatgctata gttactattga2340

caaactgggt tagagaagga gtgtaccgct gtgctgttgg cacgaacacc ttcagggact2400
 ggagctgctt ttatccttgg aagagtattc ccagttgaag ctgaaaagta cagcacagtg2460
 cagctttggt tcatatttcag tcatctcagg agaacttcag aagagcttga gtaggccaaa2520
 tgttgaagtt aagtttcca ataatgtgac ttcttaaaag ttttattaaa ggggaggggc2580
 aaatattggc aatttagttgg cagtggcctg ttacgggttgg gattgggtgg gtgggttag2640
 gtaattgttt agtttatgt tgcagataaaa ctcatgccag agaacttaaa gtcttagaat2700
 ggaaaaagta aagaaatatac aacttccaag ttggcaagta actcccaatg atttagttt2760
 tttccccca gtttgaattt ggaagctggg ggaagttaaa tatgagccac tgggtgtacc2820
 agtgcattaa ttggggcaag gaaagtgtca taatttgata ctgtatctgt ttccttcaa2880
 agtatacgac ttgggggaa ggaaagtattt gaaactgggg ttggcttggc ctactggct2940
 gacattaact acaattatgg gaaatgc当地 agttgttgg atatggtagt gtgtggct3000
 cttttggat tttttcagg tgatttaata ataatttaaa actactataa aactgc当地3060
 gcaaaggaag tggcttaatg atcctgaagg gatttcttct gatggtagct ttgttattat3120
 caaactttt tcagataaca tcttctgagt cataaccagc ctggcagtagt gatggcctag3180
 atgcagagaa aacagctcct tggtaattt gatgttggc当地 ataaatgtca3240
 tacctccatt ggggaaataag cataaccctg agattcttac tactgatgag aacattatct3300
 gcatatgcca aaaaattttt agcaaatgaa agctaccat taaaagttac ggaatctacc3360
 attttaaagt taattgcttgc tcaagctata accacaaaaaa taatgaattt atgagaaata3420
 caatgaagag gcaatgtcca tctcaaaaata ctgctttac aaaagc当地 taaaagc当地3480
 aagaaatgaa aatgttacac tacattaatc ctggaataaa agaagccgaa ataaatgaga3540
 gatgagttgg gatcaagtgg attgaggagg ctgtgctgtg tgccaatgtt tcgttgc当地3600
 cagacaggta tcttctcgtt atcagaagag ttgcttcatt tcatctggg gcaagaaaaca3660
 gcaaggcagct gttAACAGAT aagtttaact tgcatttgc当地 gtattgc当地 tttagggataa3720
 gtgcttattt ttaagagctg tggagttctt aaatataaac catggactt tctcctgacc3780
 cttcccttag gggattttcag gattgagaaa ttttccatc gagcctttt aaaaattgtag3840
 gacttggtcc tggggcttc agtgc当地 tagtacactt cactcagagg catttgc当地3900
 tttaaataat ttcttAAAG cctctaaatg gatcatttgc当地 ttgtatgccaa ctaaggaaat3960
 ttgtttagca ttgaatcttgc当地 tggacttgc当地 tggaaagaaat agcatgatgt gctgttagaa4020
 tcagatgtta ctgctaaat ttacatgttgc当地 tggacttgc当地 tggacttgc当地4080
 cattcaaaat aataaactat ttttatttgc当地 gaatgtatac ttttagaaatg ctgttgc当地4140
 atttaaataa aatgtgttt gtctgttagt cagtggtgg gcaatcttgg gggggattct4200
 tctctaatct ttcttgc当地 ttttgc当地 acactcttta atggaccaga tcaggatttgc当地4260
 agcggaaagaa cgaatgttaac tttaaggc当地 gaaagacaaa ttttatttgc当地 cataaaatgtaa4320
 tgagcatata ataatttc当地 gcacatggca atagaggccc tctaaataaag gaataaaataa4380
 cctcttagac aggtgggaga ttatgtatc当地 agtaaaaggt aatttacacat ttttgc当地4440
 gaaagtcttgg ggtctataaa ttgc当地 ttagacttgc当地 ttagacttgc当地 ttagacttgc当地4500
 ttgc当地 ttagacttgc当地 ttagacttgc当地 ttagacttgc当地 ttagacttgc当地4560
 gaccttatata aggaaaaaaga tgtag 4584

(2) INFORMATION ON SEQ ID NO. 120:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 982 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

gtggagggga ccctgtggtt agcagcagct atcgacgcgt cggatgttca gaggcagcaga 60
agccggcgtc gtcggatgtt gtgttgcggcc ccaccatgag ctacacaggc ttgtccagg 120
gatctgaaac cactttgcag tcgacatact cggataccag cgctcagccc acctgtgatt 180
atggatatgg aacttgaac tctgggacaa atagaggcta cgagggctat ggctatggct 240
atggctatgg ccaggataac accaccaact atgggtatgg tatggccact tcacactctt 300
gggaaatgcc tagctctgac acaaatacgaa acactatgtc ctcgggttagc gccagtgccg 360
atcccggttt atccagaatt aaccagcgct tagatatggt gccgcatttg gagacagaca 420
tgatgcaagg aggcgtgtac ggctcagggtg gagaaaggta tgactcttat gagtcctgcg 480
actcgagggc cgtctgtgagt gagcgcgacc tgtaccggtc aggctatgac tacagcgagc 540
ttgaccctga gatggaaatg gcctatgagg gccaatacga tgcctaccgc gaccagttcc 600
gcatgcgtgg caacgacacc ttccggtccca gggcacaggg ctggggccgg gatgcccgg 660
gcggccggcc aatggccgca ggctatggc gcatgtgggaa agaccccatg gggcccccgg 720
gccagtgcatt gtctgggtgcc ttccggcttg ccctccctct tctcccagaa catcatcccc 780
gagtagggca tggccaggg gcatgcgagg ttggggcgcc ttcccgccg gcttcccgtt 840
ttggttttcg ggtttggcaa tggcatqaag cagatgaggg cggactggga agacggggac 900
cacagccgat ttgcgaacca agaagaagaa gagaagcag ggcggcattc tgattgagcc 960
agttagcaaa gcagccggaa tt 982

(2) INFORMATION ON SEQ ID NO. 121:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 742 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

ctcaacttcg cacgactgcg tgcctcaagc cgacgcagcg gcctacttc gcactgcaga 60
 cggggaaact gaggcccgag gcggccgggg tggggcagac ctcccgccga gcccggcc120
 cccggggggc ctagccccgc cctggcccggt aagaagcacc cggggccgca ggccaaggcg180
 cacagcgccg ggcaggctg ggtccagcag cgccatggca gctcagccgc tggcaagcg240
 cgtgtcgagc aagctgcagt ctccatgcgc ggcccgcggg ccagggggca gtcccggggg300
 gctgcagaag cggcaccgcg gctcaccgt caagtatgac cggcgggagc tgcaaggcg360
 gctggacgtg gagaagtgg a tcgacggcg cctggaggag ctgtaccgcg gcatggaggc420
 agacatgccc gatgagatca acattgatga attgtggag ttagagagtg aagaggagag480
 aagccggaaa atccaggac tcctgaagtc atgtggaaa cctgtcgagg acttcatcca540
 ggagctgctg gcaaagcttc aaggcctcca caggcagccc ggccctccgca agccaagccc600
 ctcccacgcac ggcagcctca gccccctcca ggaccggcc cggactgctc acccctgacc660
 ctcttgact ctccctgccc cccggacgccc gcccagctt cttgtgtata agttgtat720
 aatggttctg taacaataaa aa 742

(2) INFORMATION ON SEQ ID NO. 122:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2330 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

gttggacaa gttgtttaa taggaaatag acctgcgtgc ttcatagtt tcctcaacca 60
 ccttcctca gctttcttaa aatggatct acatggctc ttcacaccca aatagcagac 120
 taatcgttt tctgcttagc accgtctgt tcattgttca gaaactctgcc ttacagcagc 180
 aagaaaattt tcctcgacaa gaacctcaat cttagttcc attgagctcc ccctctggat 240
 tttggactta ccagaagtag gaggttctga taccattcaa gatggcttt ccttc当地 300
 aggtctgaag aggagactac caaaggcgtg tttacaaacc cagagtccac acaaccat 360
 tgcataagaac agcaattggc tttcacaaggc ctcctacagg acctgggtga attggagtga 420
 aagggcagag accctggaag tggaggtggc tgcgtgctgc gatgggaaga aggccagaagg 480
 cccaggggct ttggacatag agcagggtgg aagctgcaag tactggaaag gaagagagtt 540
 tcacagaaac aaagctttgt cacacagaaa tgagttctgt ctcaactgtg acttc当地 600
 tcaggctcca gctgagcaga gattttaaatc agcttcctta atgggtattt acactgctca 660
 ggaagcgtta gaccctgtca gggacagcta ttgatctttt gtgttctgt tagattggaa 720
 aatagatcaa ctccattgtt gtc当地ggaaac tggtggtcac agctactagg aatgagggtga 780
 tttctgaggg ctgagaaaaa acacagaatc ttggccagca gccc当地ggct gcatgggtgaa 840
 agatgcattc acttctcctt tgagagttgg ggttggggc aaacatagaa cccagggtt 900
 gcttacaacc cagtgtcccga agggccctcc ttc当地ggagaa ctgttaagtaa gaggtgggtg 960
 tgc当地aaaga caataccatt aatgaatgtt ctggcccttac ct当地aaaggt ttagcaattt 1020
 ggggataact ctggatcta gcttatgtgc gtc当地acatgc acatttgc当地 gccc当地ggct 1080
 tt当地aaatga ggtctggcat atacttgatt acaaatgaaa actc当地aaac caattt当地ttt 1140
 tattaaatca tatctttgtt tttcccccctt cccttcttaat cccccc当地aaagg acctt当地ttg 1200
 gctt当地ccccc aattcatctg ct当地atttgg accatgaaatc tgccagagtg atat当地tctg 1260
 tt当地tttcc tcc当地aaatttt tccctgatgt tt当地aaataaa gat当地tacttg ggtt当地ccctt 1320
 taagggtgaca tcaggatgct ct当地atgtcct tcc当地aaatggc gcatc当地actt cactt当地ctc 1380
 cctt当地catct ccctctgcat tcttaatcc tt当地tttctt cactt当地ggagc cgagggtgct 1440
 tt当地agaggtt ggtt当地ccat gaatc当地ggccaa agat当地ctgt agaaggttggg tatac当地ttt 1500
 cc当地tttcaa agctc当地ctcg ct当地atgcttaat gtc当地ccctc当地 agatgagggtt tgactt当地ttg 1560
 gccc当地gtatga ct当地ctccata gctt当地ggccaa ggagaccatg agtagccatg tctt当地gggttac 1620
 tctt当地atccct gagactgttt gttt当地atgct taaaacagaa gtgtt当地cttc cc当地ggc当地aaal 1680
 cctt当地atcaat cagtgtatca gt当地catctgg tggcaacagc tc当地ggccctt当地 caaagagcaal 1740
 ggattc当地gga aaggccacact gatgggtgggg agccctt当地aa gagectt当地aa tgc当地tccctt当地 1800
 aaacc当地aggt tgagagtc当地gg agt当地ccatgc gtc当地ggggccc actattctg aataagggac 1860
 atgcaaggggc cagaagtagc tt当地actctcg ct当地aaatatc tgc当地ctttg cctt当地tctt当地 1920
 ctcc当地actct actgaaacc ggaacagatt cccgctt当地gcc tt当地tgc当地tggaa gagagggtt 1980
 gtaaagagag tttggaggaa aaaagacacc aggaggcagg ct当地tggggta ggaggagggtt 2040
 ctgagaggag gcaagcaatcc agaataccctc ct当地tttctgatgc cagcatccct tgaactt当地ttg 2100
 aaagggtt当地gtg cctt当地ccactg gctt当地ggc当地acac caggccatg atttccctgc agaaggaaagg 2160
 aaagaatgtt tt当地accctt当地g catcctt当地ttt gggagaagct accagccctgt tgctt当地cagtt 2220
 tgagttt当地gggtt tcaatccatg gat当地tttgggg tttt当地atgggtt tttccctt当地ctt ccctgtt当地ttt 2280
 tgccccgaaac gttgatcaac aggggtgaaa aaggccacc tgagggtt 2330

(2) INFORMATION ON SEQ ID NO. 123:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1860 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

ggggcaggtt	gagatcacca	gcattccgt	ggatgtctgg	cacatcctgg	aattcgacta	60
tagcaggctc	cccaaacaaa	gcatcggca	gttccatgag	ggggatgcct	atgtggtcaa	120
gtggaaagtcc	atggtgagca	cggcagttgg	aagtgcggag	aaggggagac	actcgggtgag	180
ggcagccggc	aaagagaagt	gcgtctactt	cttctggcaa	ggccggcact	ccaccgtgag	240
tgagaagggc	acgtcggcgc	tgtgacgggt	ggagctggac	gaggaaaggg	gggcccaggt	300
ccaggttctc	cagggaaagg	agccccctg	tttcctgcag	tgtttccagg	ggggatgggt	360
ggtgtcaactg	gggaggcggg	aagaggaaga	agaaaatgtg	caaagtgagt	ggcggctgt	420
ctgcgtgcgt	ggagaggtgc	ccgttggagg	gaatttgcgt	qaagtggcct	gtcactgttag	480
cagcctgagg	tccagaactt	ccatgggttgt	gcttaacgtc	aacaaggccc	tcatctaccc	540
gtggcacgga	tgcaaaagccc	aggcccacac	qaaggaggc	ggaaggaccg	ctgcgaacaa	600
gatcaaggaa	caatgtcccc	tggaaagcagg	actgcatagt	agcagcaaag	tcacaataca	660
cggatgtgtat	gaaggctccg	agccactcgg	attctggat	qccttaggaa	ggagagacag	720
gaaaggctac	gattgcattgc	ttcaagatcc	tggaaagttt	aacttcgcgc	cccgccctgtt	780
catcctctcgc	agctcctctg	gggattttgc	agccacagag	tttgcgtacc	ctgccccagc	840
ccccctctgt	gtcagttcca	tgcccttcct	gcaggaagat	ctgtacagcg	cgccccagcc	900
agcactttc	cttgcgttgcac	atcaccacga	ggtgtaccc	tggcaaggct	ggtggcccat	960
cgagaacaag	atcaactgggt	ccgccccgcat	ccgctggggcc	tccgacccgga	agagtgcgat	1020
qqagactgtg	ctcccaact	qcaaaqgaaa	aaatctcaaq	aaaccqaqccc	ccaaqtctta	1080

(2) INFORMATION ON SEQ ID NO. 124:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 807 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 124:

cctttcctca tctctattaa attgtaaaca ggactactgc atgtactctc tttgaggtga 60
 atttgaatg gaaggccagg gactatactc tttttaaaat agacatttgt ggggctcacal20
 caatatatga aatagtaccc tctaaaaaag agaaaaaaaaa aatcaggcgg tcaaacttag180
 agcaacattg tcttattaaa gcatagttta tttcactaga aaaaatttaa tatcaaggac240
 tattacatac ttcattacta ggaagttctt tttaaaatga cacttaaaac aatcactgaa300
 aacttgatcc acatcacacc ctgtttatcc tccttaaaca tcttggaaagc ctaagcttct360
 gagaatcatg tggcaagtgt gatggcagt aaaataccag agaagatgtt tagtagcaat420
 taaaggctgt ttgcaccttt aaggaccgc tgggctgttag tgattcctgg ggcagagtg480
 gcattatgtt ttacaaaaat aatgacatat gtcacatgtt tgcacatgtt tttgctgtt540
 gaattttga acagccagtt gaccaatcat agaaaagtatt acttttttc atatggttt600
 tggttcactg gcttaagagg ttttcagaa tatctatggc cacagcagca taccctgtt660
 ccatcctaat agggaatgga aattaatttt gtaacctact gattaacaga atctgggggt720
 cacattggaa aaaaattctt ttatccgtct tttaggata tttttaaata ttatttatg780
 tgcggata ttgcggacag tctgaga 807

(2) INFORMATION ON SEQ ID NO. 125:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1932 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 125:

ccgggggtttt gggctggaac tgcagcgctt agagagctcg gtggaagctg ctaaaggcgg 60
 aggccgggct ctggcgagtt ctcccttccac cttccccac ccttctctgc caaccgctgt 120
 ttcagccccct agctggattc cagccattgc tgcagctgct ccacagccct tttcaggacc 180
 caaacaaccg cagccgctgt tcccaggatg gtgatccgtg tatatattgc atcttcctct 240
 ggctctacag cgattaagaa gaaacaacaa gatgtgcctg gtttcctaga agccaacaaa 300
 ataggatttg aagaaaaaaa tattgcagcc aatgaagaga atcggaaagtg gatgagagaa 360
 aatgtacctg aaaatagtcg accagccaca ggttacccccc tgccacctca gatttcaat 420
 gaaagccagt atcgcgggga ctatgatgcc ttcttgaag ccagagaaaa taatgcagtg 480
 tatgccttct taggcttgac agccccaccc ggttcaaaagg aagcagaagt gcaagcaaag 540
 cagcaagcat gaacctaag cactgtgctt taagcatcc gaaaaatgag tctccattgc 600
 ttttataaaa tagcagaatt agcttgctt caaaagaaat aggcttaatg ttgaaataat 660
 agattagttg gttttcaca tgcaaacatt caaaatgaat acaaaaattaa aatttgaaca 720
 ttatggtgat tatggtgagg agaatggat attaacataa aattatatta ataagtagat 780
 atcgtagaaa tagtgttgc acctgccaag ccattctgtt tacaccaatg attttacaaa 840
 gaaaacaccc ttccctccctt ctgccattac tatggcaact taagtgtatc tgccagctct 900
 cattaaaaag gagaaagaga aataacctgt ctctcatcc taatgtgcct cattaatttt 960
 catgaacaag aatatgtacc tttttgatgc tatattactg cgattaaaaa gttcttgag 1020
 gtaatgttta tgatatgtt aacgttgtaa ttcttctatcg taattataac attccatttc 1080
 tttttagat gaaacttcta catattgaac cacagatttt ctgagcttct aaatgttagcc 1140
 ttccatttgca catttcagtg atcagaatag atatcctttt acacgcacaa aagcaatagal 200
 ttccattcagt ggacaagttc cttgtttaac tacacagctt tgatggatg atatatccaa 1260
 gttcccttgcc tcagtgaaat atgcatatgt atatcatgaa agtggatgc caagtaagct 1320
 taaaatggca ttctctagca aagagattag acttttaat aactcttata aaacaggttg 1380
 gcgatcattt cccaagattt gtttcccttg agtttttgct aaaacaaatc tttagtagttt 1440
 tgcccgtttta aaacaactca caatcgtaaa tgctactatt cctaagatat cttacctttt 1500
 tatttcagt tagccatgtt ttgtatgagt gtattagttt aagcagttag aatctttct 1560
 atgcctctat tccagaaaaa agttagaagta tcaaaaaaaa agggcaactt taaaaatatt 1620
 aaggctgaag acttctaaaaa agacaagaaa catggcctaa ataaccaaca tagatttac 1680
 tagtaagttt cacactaccc tattacaaa agcaaaccacc tcttacttta aactacattt 1740
 tcatgtatat ctattgtatg ctggctttt ctttttgcca aaatcaacat ataatgaaga 1800
 gatgcctttt gttcatgaga ttcaaacttg atgctatgtt taaaaataaa ctcagttactt 1860
 tttagaaacat aaaaaaaaaaaa aaaaaaaaggc gaccccccga gtatgtggcc cgcgccccggg 1920
 gattttccgg gg 1932

(2) INFORMATION ON SEQ ID NO. 126:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3024 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 126:

atatatgtta agacattccc ttgctaatta ttttcttctc tggttgttcta ttttttttgt 60
 ccagtttgct gtttttaaag ttttgagtcc cagctggtcc tgcacatcta actgaaaaaaaa 120
 aagtaactta aaataatata aaaatagcac tcatgtatgt cctacagttt taggtgaaat 180
 ttgatattgt ttgttcttaca tagcataacct atagacagct taagtaaagt gactgtttag 240
 agggttatgc ttattgtatga actcttggtag ttgtttacca gctctgttag tatagtttaaa 300
 ttgatcttag tagcttcaag tatttataaaa atgggttgaag tccaaataca tggataatt 360
 acaatacact ttgaattaat ggggggtggg aggcttagttt aaatgcattt tatttaccca 420
 aggagtatgt taaaatgata gttataaatg ttggaaagttt aaagcaagat actcagttt 480
 gttctttaca aatcataaga agaacaaaat tagatgttga cattgctatt ttaggctgtg 540
 tttttccat atgcttcttgc ctttccctgt cacaggttgc ggcagcaata ttgtgtgtat 600
 tgagggtatg ctggcaccac tcgcacacag ggcacaaatgt gtgttagctg ggcagaaaaga 660
 gtggcatctc tggctaccgg gctggggggc acctttacca taggatgaag taaccttgca 720
 ttccggctgca aggtgtactg tacgtacaca ggtgtggtc gatgtccact ttctgctttt 780
 ctttcttctt tttttttttt ttaaagtaa tttccccccac agtaaaaatac actgactcct 840
 gagtaaatttgc attttccatgt tttatggaaat tgggagtctg acaagtggaaa ccaatttaat 900
 gtaaagtatt tggcttcaa atggtttctc tggcttattt ttggaaattt tttcagattt 960
 cagagatato ttagtctttt gattcaattt aaaatttgc tttttttttt ttttagaaata 1020
 atgtattgtg tctgtgcaga aaaaaaaaaaa ccaaaaaaggaa ttgctttact ccaagaggag 1080
 agattgtctt aggataaaacc tccaaagctca catttaatata aacagactga agtaaacatt 1140
 agaatcctgt ttagagctat tctgcacagt taactactga tcttttagaaat ctaaaattgt 1200
 atatgaactt attcttaaat aattgaaccg ttttatattt aaatgactt tgatcggtt 1260
 tagtttggaa aaaataagat gtttaaattt tgatttattt aaatgttaatt gtattttttt 1320
 cataaaaatag cattttcatt ttgtaatgtg gtttaacatc cttgttggttt gccaaagaaa 1380
 tttcattttgg ctgtgaatat ttatattgt tgcagttatct gtttcttctc cttaggctcaa 1440
 gtttgtgacc caaggctatt gtaaacaagt gattctca aaggggagatg ccaatggagt 1500
 aacaattttgt taaccttacg ttttctgtct gtatattttt ttaaaaatct ggttagttct 1560
 ggaaaaaaaaa gagaaggggg tttgttagtac ttaaccctat ttatccgtt atattttagt 1620
 taatttagttt ttggaaataaa tggatttca gatagctttg tggtaaattt gcattgcctt 1680
 tattttatgt ttaggcttattt ttttaaattt acatttaaca gaaacatttgc aaatagaatt 1740
 tgcatgtctg ccttaattaa cttaaagact gatatttatac tgactatgac actgagcata 1800
 ttcttttaat tactcataat ttataatgtc taatataatc ttaattaaat ttagcagttt 1860
 tagtataaga tggccattt tggctctgt atgtctgaat gaagctataa cattgcctt 1920
 ttatggcag gttttccctt ggaatatgga taaatacacc atgatacggg aactagaagg 1980
 acatcaccat gatgtggtag ctgtgtactt ttctcctgtat ggagcattac tggctactgc 2040
 atcttatgt actcgagttt atatctggaa tccacataat ggagacattc ttagtggaaatt 2100

tgggcacctg tttccccac ctactccaat atttgctgga ggagcaaatg accgggtggg2160
 acgatctgta tcttttagcc atgatggact gcacgttgca agccttgctg atgataaaat2220
 ggtgagggttc tggagaattt atgaggatta tccagtgcaa gttgcaccc ttgacatgg2280
 tcttgctgt gccttctcta ctgatggcag tgtttagct gctgggacac atgacggaag2340
 tggtatattt tggccactc cacggcaggt ccctagccctg caacatttat gtcgcattgtc2400
 aatccgaaga gtgatgccc cccaagaagt tcaggagctg ccgattcctt ccaagcttt2460
 ggagtttctc tcgtatcgta tttagaagat tctgccttcc ctagtagtag ggactgacag2520
 aatacactta acacaaacct caagcttac tgacttcaat tatctgtttt taaagacgta2580
 gaagatttat ttaattttagt atgttcttgc actgcattt gatcagttga gctttaaaa2640
 tattatattt agacaataga agtatttctg aacatataa atataaaat ttttaaagat2700
 ctaactgtga aaacatacat acctgtacat atttagat aagctgctat atgttgaatg2760
 gacccttttgc ctttctgtat tttagttct gacatgtata tattgcttca gtagagccac2820
 aatatgtatc tttgctgtaa agtgcagaga aattttaaat tctgggacac tgagtttagat2880
 ggttaataact gacttacgaa agttgaattt ggtgaggcgg gcaaattcacc tgaggtcagc2940
 agtttgagac tagcctggca aacatgtatc aaccctgtct ctactaaaaa tacaaaagaa3000
 aaaaaaaaaa aactcgaaac tact 3024

(2) INFORMATION ON SEQ ID NO. 127:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 505 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(v) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vi) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 127:

ctgcacgggc gcagatgttag gcacccgtcc gagtgcttgc cctctgtccc cgccgctggg 60
 tctcgctctgc tccgggttcct gggctcctaa ttcttggtcc agcttcttcc aggtctgcgc120
 gtctgttgc cccagcgctc tgcaagctg aaaaggagga gcaacctgtc cagaatcccc180
 gcaggacagg aaaaggaggg gaaatctcgat gatggaaaaa ctctacagtg aaaatgaagg240
 aatggcttca aaccaaggaa agatggaaaaa tgaagaacacg ccacaagacg agagaaagcc300
 agaagtaact tgcgttgc aagacaagaa gttagaaaac gagggaaaga cagaaaacaa360
 gggcaaaaca ggagatgagg aaatgttaaa ggataaaggaa aagccagaga gtgagggagaa420
 ggcaaaagaa ggaaagtca gaggaggaggg agagtcagag atggaggagg tcgagagaga480
 gggaaacccga ggtaggggaa gcgga 505

(2) INFORMATION ON SEQ ID NO. 128:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 115 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 128:

PPLLLRLFFFY LRKFISTSTA EIRKWYRFGQ IILYEMDPHT TSFLIQARYN IIPGFSKSSQ 60
HGYLCYSVLA FIAASSFRRA FFSKFKLVKV SCLWAAFLPS ITMkmhpttv RAIIR 115

(2) INFORMATION ON SEQ ID NO. 129:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 82 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 129:

VRDGAPGLSC GFVQNPFILF KSELLVSLRD EETSLSHNLK QLPAARRRPL RLPMATCYSA60
DQRRTSPGTV ALVSSMSPSV GV 82

(2) INFORMATION ON SEQ ID NO. 131:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 53 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 131:

GIITLSLLMI IHPQMEEFIR QPLQFRLKTG AHRTQGTTKE DQEPRFFLSK NWP

53

(2) INFORMATION ON SEQ ID NO. 132:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 52 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 132:

LFILRWRSL S VSHFSFVLKQ EPTGPKELL R RTRNLGFFFQ KIGPSPINEG KN

52

(2) INFORMATION ON SEQ ID NO. 133:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 41 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 133:

KKKPRFLVLL NSSLGPVGSC FKTKLKW LTD KLLHLRMNNH Q

41

(2) INFORMATION ON SEQ ID NO. 134:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 107 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 134:

ADPAFSTDLF QGCTDMAAF RKAAKSRQRE HRERSSDYRK KQEYLKALRK KALEKNPDEF 60
YYKMTTRVKLQ GGVHIIKETK EEVTPEQLKL MRTSGRQIYR KGRGCRS 107

(2) INFORMATION ON SEQ ID NO. 135:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 63 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 135:

RIRRSPLIFS KAVQTWRRLF GRRLSPGSGN TESEAVTTVK NKNTSKLFGR RLLKKIQMNS60
TTK 63

(2) INFORMATION ON SEQ ID NO. 136:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 87 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 136:

LFWGYFFLSL LNNMYSTLEF NPSHFVVEFI WIFFKSLLPK SFEVFLFFTVA TASLSVFPL60
PGLSRLPKSR RHVCTALEKI SGERRIR 87

(2) INFORMATION ON SEQ ID NO. 137:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 95 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 137:

EANNYMSCQG GSRFHFSFIL PQYPGINAAT GGQSLFVLLP TPSLFCLFNS VKLFCLGPGK60
EPKENLSGQV HFWNAENILK ARFLEYSQLA FFPLI 95

(2) INFORMATION ON SEQ ID NO. 138:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 77 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 138:

NSSASSPQFW PNSRLAVFTW YPGVGLLTLI SMMFSKMKLD KVDHQLHRVF CKSIVSKWPR60
DLRKIQIFCL PWSCFKS 77

(2) INFORMATION ON SEQ ID NO. 139:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 133 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 139:

DLKQDQGKQK ICIFLKSLGH LLTILLQKTR CSWWSTLSSF ILENIIIEIKV SNPTPGYQVK 60
 TASLLLQNC GLLAELFYGL QSKWSYLTTH MTKVNLVRC KVNLNQFWIQ EIIIVNFPFK120
 SMERMLVENI LKI 133

(2) INFORMATION ON SEQ ID NO. 143:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 783 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 143:

FLLQPSAFHL YEPPLDYTMW WRMGPRFTML LAMWLVCGSE PHPHATIRGS HGGRKVPLVS 60
 PDSSRPARFL RHTGRSRGIE RSTLEEPNLQ PLQRRRSVPV LRLARPTEPP ARSDINGAAV120
 RPEQRPAARG SPREMIRDEG SSARSRMLRF PSGSSSSPNIL ASFAGKNRVW VISAPHASEG180
 YYRLMMSLLK DDVYCELAER HIQQIVLFHQ AGEEGGKVRR ITSEGOILEQ PLDPSLIPKL240
 MSFLKLEKGK FGMVLLKKTL QVEERYPYPV RLEAMYEVID QGPPIRRIEKI RQKGFVQKCK300
 ASGVEGQVVA EGNDDGGGAG RPSLGSEKKK EDPRRAQVPP TRESRVKVLR KLAATAPALP360
 QPPSTPRATT LPPAPATTVT RSTSRAVTVA ARPMTTTAFP TTQRPWTPSP SHRPPPTTEV420
 ITARRPSVSE NLYPPSRKDQ HRERPQTTRR PSKATSLESF TNAPPPTISE PSTRAAGPGR480
 FRDNRMDRRE HGRDPNVVP GPPKPAKEKP PKKKAQDKIL SNEYEEKYDL SRPTASQLED540
 ELQVGNVPLK KAKESKKHEK LEKPEKEKKK KMKNENADKL LKSEKQMKKS EKKSKQEKEK600
 SKKKGGKTE QDGYQKPTNK HFTQSPKKSV ADLLGSFEGK RRLLLITAPK AENNMYVQQR660
 DEYLESFCKM ATRKISVITI FGPVNNSTMK IDHFQLDNEK PMRVVDDDEL VDQRLISELR720
 KEYGMTYNDF FMVLTVDVDLR VKQYYEVPI MKSVFDLIDT FQSRIKDMEN QKRGVFFEGG780
 KTP 783

(2) INFORMATION ON SEQ ID NO. 144:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 87 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 144:

KMVGVWVFL RWERMCENLQ QNGFAAEVR MCSCIDLQTP RRVVHTACLG VPRDSRPPTY60
 LSEARAAGHG PSAKPVCDAL GALVQEA 87

(2) INFORMATION ON SEQ ID NO. 145:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 97 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 145:

SFSSLGVRNT LFITFKFALY FFSSMLVLWT FGDVSVRAGE RGVRPSPHRW SWPPPSSL60
 PDHRFPICPS ENLSQGELKF TGQGTSFIYF IMLANRT 97

(2) INFORMATION ON SEQ ID NO. 146:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 87 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 146:

ASCTKAPRAS HTGLAEGPWP AARASDKYVG GLESLGTPKH AVCTHLLGVC RSIQEHIILTS60
 AANPFPWKRF SHILSHLKKT HTPTTIF

87

(2) INFORMATION ON SEQ ID NO. 147:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 119 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 147:

NSKDKCFSLA FITTPETERW RCCASEPRLL ALKHQGHRTQ AWQRGHGQRH ELQTSMLEVS 60
 NPLAPPSMQC APTFWVSADR YRNTSLPLQR THFPGKDFHT SSPTSKKPTH PQPFFKAPR 119

(2) INFORMATION ON SEQ ID NO. 148:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 87 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 148:

STKGIAHRLG RGAMASGTSF RQVCWRSRIP WHPQACSVHP PSGCLQIDTG THPYLCSEPI60
 SLEKIFTHPL PPQKNPHTHN HFLKPHG

87

(2) INFORMATION ON SEQ ID NO. 149:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 69 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 149:

DPPSHSQLGR CCHRMVFESV GARAHFWLSQ QLGWHLPSA RNSNIMNARD SVLSKVFHPK60
GAGHGCSRL 69

(2) INFORMATION ON SEQ ID NO. 150:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 68 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 150:

SAHLGLPKCW DYRREHPCPA PFGWKTLLST LSLAFIMLLF LALGSKCHPS CCDNQKCALA60
PTLSNTIR 68

(2) INFORMATION ON SEQ ID NO. 151:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 57 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 151:

HHTQPIFVFL VATGFHHVGQ AGLEPLTSGD PPTLASQSAG ITGVSTRALP LLDGRLY 57

(2) INFORMATION ON SEQ ID NO. 152:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 57 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 152:

SAGIPKLAPK IPLPFS DLLK CYLISGAFPD HTLKTSTPTH GPCPPSRLHF LAYTYQM 57

(2) INFORMATION ON SEQ ID NO. 153:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 32 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 153:

LKTLLTVASI RVSTFYSSDP TSFNLLLLIY GG

(2) INFORMATION ON SEQ ID NO. 154:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 32 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 154:

TKRAVMKSMH LCAIRAFLVP HSELIDSODYI HF

32

(2) INFORMATION ON SEQ ID NO. 155:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 155:

GRVRAVKGRH SDRSHSQQCF QSVNTDEVPT T

31

(2) INFORMATION ON SEQ ID NO. 156:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 52 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 156:

VQNVMSACNF IFIKAKLIYM EYCSIYYAPI YILSPVVRYF ISLLLNIFYT YL

52

(2) INFORMATION ON SEQ ID NO. 157:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 59 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 157:

TGTFCFFICC IENSHTQFSI LCQCSHHGWT LGRNSPQPFL VSFSQFFSVS RWAPVINLP 59

(2) INFORMATION ON SEQ ID NO. 158:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 38 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 158:

LSLCPCWPGN FFQWCLLEEV FSSGQFKEIK LGNGEGGR

38

(2) INFORMATION ON SEQ ID NO. 159:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 33 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 159:

GSILDMMQEI SSWSQKFPRG AVFLRNGVYL NNS

33

(2) INFORMATION ON SEQ ID NO. 160:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 44 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 160:

KKLPGQHGHK LNYYLNKLHF LKIQHLLGTF DSRKRFPASY PKCF

44

(2) INFORMATION ON SEQ ID NO. 161:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 225 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 161:

AAGGLGLGVG PRGMWRAGSM SAEVGCGAL RAVNERVQQA VARRPRDLPA IQPRLVAVSK 60
 TKPADMVIEA YGHGQRTFGE NYVQELLEKA SNPKILSLCP EIKWHFIGHL QKQNVNKLMA120
 VPNLFMLETW DSVKLADKVN SSWQRKGSPE RLKVMVQINT SGEESKHGLP PSETIAIVEH180
 INAKCPNLEF VGLMTIGSFG HDLSQGPNPD FQLLSSLFEE TVVKS 225

(2) INFORMATION ON SEQ ID NO. 162:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 99 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 162:

CRGPGARRRS PGDVESWQHV GRAGSRVRIA GGERARAAGC GAAAAGSPSH PAPASGGQQN60
 QTCRHGDRLW WTWAHFWRW LRGSTARKSI KSQNSVFVS 99

(2) INFORMATION ON SEQ ID NO. 163:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 120 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 163:

LRSCPPLPMV ISPTNSRLGH LAFMCSTMAM VSEGGRPCLL SSPLVLIWTI TFNLSGEPEFL 60
 CQELFTLSAN FTESTVSSMK RLGTAINLLT FCFCRWPMLC HLISGHKDRI LGFDAFSSSS120

(2) INFORMATION ON SEQ ID NO. 164:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 75 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 164:

TSTGPSSPLV ASAATELAAF AAAFSSACMR PEGSASLFWN RLPLLMFGDL QGCEAREGIA60
MRILQASFSG LSSKG 75

(2) INFORMATION ON SEQ ID NO. 165:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 90 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 165:

NTHGDLTCL TPLQVPKHEE GKAIPKQRGR TFRATHCRAK GSGKSCQFSC SRGYQGAGGT60
SAGLALYLHT RTAASRGTSQ SPVGSVAPQQ 90

(2) INFORMATION ON SEQ ID NO. 166:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 77 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 166:

SHPFEDSPEK EACKIRMAMP SRASHPCRSP NMRRGRRFQN REAEPSGRIH AELKAAAKAA60
SSVAEATRG LEGPVLV 77

(2) INFORMATION ON SEQ ID NO. 167:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 347 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 167:

TAFPLPVVVA AVLWGAAPTR GLIRATSDHN ASMDFAIDLPA LFGATLSQEG LQGFLVEAHP 60
DNACSPIAPP PPAPVNGSVF IALLRRFDCN FDLKVLNAQK AGYGAAVVHN VNSNELLNMV120

WNSEEIQQQI WIPSVFIGER SSEYLRALFV YEKGARVLLV PDNTFPLGYY LIPFTGIVGL180
LVLAMGAVMI ARCIQHRKRL QRNRLTKEQL KQIPTHDYQK GDQYDVCAIC LDEYEDGDKL240
RVLPCAHAAYH SRCVDPWLTO TRKTCPICKQ PVHRGPQDED QEEETQQQEE GDEGEPRDHP300
ASERTPLLGS SPTLPTSFSGS LAPAPLVFPG PSTDPPLSPP SSPVILV 347

(2) INFORMATION ON SEQ ID NO. 168:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 588 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 168:

QVTNMSDKSE LKAELERKKQ RLAQIREEKK RKEEERKKKE TDQKKEAVAP VQEESDLEKK 60
 RREAEALLQS MGLTPESPIV PPPMSPSSKS VSTPSEAGSQ DSGDGAVGSR RGPIKLGMAK120
 ITQVDFPPRE IVTYTKETQT PVMAQPKEDE EEDDDVVAPK PPIEPEEEKT LKKDEENDSK180
 APPHELTEEE KQQILHSEEF LSFFDHSTRI VERALSEQIN IFFDYSGRDL EDKEGEIQAG240
 AKLSLNQRFF DERWSKHRVV SCLDWSSQYP ELLVASYNNN EDAPHEPDGV ALVWNMKYKK300
 TTPEYVFHCQ SAVMSATFAK FHPNLVVGGT YSGQIVLWDN RSNKRTPVQR TPLSAAHHT360
 PVYCVNVVGT QNAHNLISIS TDGKICSWSL DMLSHPQDSM ELVHKQSKAV AVTSMSPVG420
 DVNNFVGSE EGSVYTAACRH GSKAGISEMF ECHQGPITGI HCHAAGVAD FSHLFVTSSF480
 DWTVKLWTTK NNKPLYSFED NADYVYDVMW SPTHPALFAC VDGMGRLDLW NLNNNDTEVPT540
 ASISVEGNPA LNRVRWTHSG RGGCGGILK DKFCYFAMLG GAVCWSPQ 588

(2) INFORMATION ON SEQ ID NO. 169:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 41 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 169:

FHVEQLSHSF LSWRKDTIQR GSKDFVKRGI HNLLWSKCPH L

41

(2) INFORMATION ON SEQ ID NO. 170:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 55 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 170:

CPRDVGTCSI VNYGCHVLQN PYCPFELCPS SKIRSYDSIV QHGIIMKSLS SSIFF

55

(2) INFORMATION ON SEQ ID NO. 171:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 50 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 171:

KAFLVLSFPK WALFLVIHMT LFGCGCLLNF LFWTSFSKPK PARDRKGNGN

50

(2) INFORMATION ON SEQ ID NO. 172:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 60 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 172:

CTFNIESFIY LIVYRTFHNY THLLHNILTS IFKFFCTSSF SFNLVKPVIH TNVYCELSSEG60

(2) INFORMATION ON SEQ ID NO. 173:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 67 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 173:

EESFVFLIHS FVNRYKGTVN LTYTAKKKIL VYPLMLIHRV LSYNVIQLGS LTFFPKNIFI60
 EKGITLS 67

(2) INFORMATION ON SEQ ID NO. 174:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 56 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 174:

LYHIIRKHSV DQHKWVHKNF FFLGVCKHIC SFISVYKTVN QKDKTFFLVF VIFFLN 56

(2) INFORMATION ON SEQ ID NO. 181:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 289 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 181:

SRRRTQGAEST RFPQPDTIGQ DFSASAQRGG LVAHSDLDER AIEALKEFNE DGALAVLQQF 60
 KDSDLSHVQN KSAFLCGVMK TYRQREKQGT KVADSSKGPD EAKIKALLER TGYTLVTTG120
 QRKYGGPPPD SVYSGQQPSV GTEIFVGKIP RDLFEDELVP LFEKAGPIWD LRLMMDPLTG180
 LNRYGYAFVTF CTKEAAQEAV KLYNNHEIRS GKHIGVCISV ANNRLFVGSI PKSKTKEQIL240
 EEF SKVTEGL TDVILYHQPD DKKKNRGFCF LEYEDHKTAA QARRRLIEW 289

(2) INFORMATION ON SEQ ID NO. 182:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 39 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 182:

KLCTEWLKVG GIWRWMRGSC LGRLCFTWIR VGLREEIGV

39

(2) INFORMATION ON SEQ ID NO. 183:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 42 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 183:

EAVMTLILIL HTYFLTQPYS NPSEAKPSQT APSHPSPYPP NL

42

(2) INFORMATION ON SEQ ID NO. 184:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 60 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 184:

PSFSFYTPIS SRNPTLIQVK QSLPRQLPLI HLHIPPTFNH SVHNFYSLHT SYLLIFLTNK60

(2) INFORMATION ON SEQ ID NO. 188:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 46 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 188:

RSRFHMMMLTL RALQLSLPTK IGGACFRVSR LSPTEKKKKK MSLEEA

46

(2) INFORMATION ON SEQ ID NO. 189:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 65 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 189:

ITFSHDAHAQ GASIIIPPHKD RWRVFQGLSS LSYRKEKEKN VIRRGVTRQS VPRFVFPGV60
ERDQF 65

(2) INFORMATION ON SEQ ID NO. 190:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 66 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 190:

ECREAGPLFL QSRLELISFG HSRKHKPGDG LTCYASSNDI FFFFFSVGER RETLKHAPP160
FVGRDN 66

(2) INFORMATION ON SEQ ID NO. 191:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 48 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 191:

RQTEGETEML RKPSYTLPR NTSLRECKKY YWRWKSRKTA MGRRPRGD

48

(2) INFORMATION ON SEQ ID NO. 192:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 60 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 192:

RAETRSQGQL NEDKLKGKLR CLESPAIQLY PEILPLGNVK STTGDGRAEK QLWAEGQGVI60

(2) INFORMATION ON SEQ ID NO. 193:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 44 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 193:

SCIAGLSKHL SFPFSLSSLS CPWLRVSALQ LLPLRAFPPA SDLL

44

(2) INFORMATION ON SEQ ID NO. 194:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 98 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 194:

EIMNGLVLDN IWPHKLLTSV LGESHFVNHT SEIYMMNLGE QRRSCCKRCI KYLCCFCMRL60
 RSFSHLSPLF PIRISREAKL FCGFGNGHFP GKCIWIDD

98

(2) INFORMATION ON SEQ ID NO. 195:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 115 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 195:

AHSSTKAKSK SEFLPILPLC NTLRSSHNCP TPHLPVSCCT KSPSLSSFRY IVRQGRRALR 60
 RRAFEALSTL PASVKMRLHY SPEKRARFSH RSRCIFPGND HSQTHRTVWL LWISL 115

(2) INFORMATION ON SEQ ID NO. 196:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 128 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 196:

SGVKRISCVL ETKAYCHCFK KSLCEMKKNM TNTGSHTYTY IQRNLHTCTH TGRYRHTVPP 60
 KRSPNQSSYR FYHSVILSEV PTTAQHLTYP FPAAQSLHS HLFDTSSGRA EGHYAAEHSR120
 LSAHCQPA 128

(2) INFORMATION ON SEQ ID NO. 200:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 72 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 200:

RPGVEPPLL RLPDSETQKR VQGWGEMWSE GRFAFEKGSS RTHWDIVTHL NHLLIERCWP60
PNNGRSGPGF RA

72

(2) INFORMATION ON SEQ ID NO. 201:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 77 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 201:

GPSPYARGPG PDLPLLLGGQH LSIRRWFKCV TMSQCVLELP FSNANLPSLH ISPHPWTRFC60
VSESGNLLKR GGSTPGL

77

(2) INFORMATION ON SEQ ID NO. 202:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 60 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 202:

EANTFLSEDG SNVLQCPSEF SNFLSQMQTF PHSTSLPIPG PVSVSLSQAT FSKEGVPLPA60

(2) INFORMATION ON SEQ ID NO. 203:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 84 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 203:

PTTTLVILPLF FLSSRKRKQK DSFQTALCSL HCSFPKQAAS TGKAHVVT PY FSEVLLFHGV60
TLLSESKFRK QVLPLADKNH TSFL 84

(2) INFORMATION ON SEQ ID NO. 204:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 128 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 204:

CDRVPLFLSY WCAVADSWLT ASSVSHVKGI LSPQPTECAP PGPANcffnf FFFFFFLVET 60
GSPSVAQDGL ELLGSSNPPT LASQSAEITG MSHYAQPEQD DLNLINSTPK QQLSLSQGCQ120
GGLCEGKD 128

(2) INFORMATION ON SEQ ID NO. 205:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 96 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 205:

WVAGRRHLLS VQTKSLQVLG LDLCVTPESQ CIRYLYKKLV WFLSAKGKTC FLNLLSDNKV60
TPWKRRTSEK YGVTTWAFPV LAACFGKLQC RLQRAV 96

(2) INFORMATION ON SEQ ID NO. 206:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 49 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 206:

PDFRGFAGPA MFSRGFQVGR GERQGENAPC RGVQRSPASC PAVGWTSDL

49

(2) INFORMATION ON SEQ ID NO. 207:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 56 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 207:

QISGVLRAPR CFPEVFKWEE ESDKVKMPRA GASSGVLPBV RRWGGRLIYE GAHPPI

56

(2) INFORMATION ON SEQ ID NO. 208:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 68 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 208:

CCSCQSSQVR YSDRWMGTFI NQTSTPPPDS WQDSAGRPGT GHFHLVALLF PLENLWKTSR60
GPQNPGLN 68

(2) INFORMATION ON SEQ ID NO. 209:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 164 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 209:

WGGRTLASAV SIPLRKCHSH RPTVLARKQP QSGVPPPYTA IASPDASGIP VINCRVCQSL 60
INLDGKLHQH VVKCTVCNEA TPIKNPPTGK KYVRCPCNCL LICKDTSRRI GCPRPNCRRI120
INLGPVMLIS EGTTSSACIA QSQPEGYKGR VLGHGWTGHS LWDG 164

(2) INFORMATION ON SEQ ID NO. 210:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 218 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 210:

SSAVPDGAVG RPVAVAVGGP PHSCRCPCC LMAAIGVHLG CTSACVAVYK DGRAGVVAND 60
 AGDRVTPAVV AYSENEEIVG LAAKQSRIRN ISNTVMVKQ ILGRSSSDPQ AQKYIAESKC120
 LVIEKNGKLR YEIDTGEETK FVNPEDVARL IFSKMKETAH SVLGSANDV VITVPFDGE180
 KQKNALGEAA RAAGFNVRL IHEPSAALLA YGVGQDSP 218

(2) INFORMATION ON SEQ ID NO. 211:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 186 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 211:

RKWTLTSMQS KRMLKRPDNK LKYVTKWQRT AKQITHPFSR NSTMSSMNIT ILTSPTSSRK 60
 YKRAEERRIV RMGESMKTYA EVDRQVIPII GKCLDGIVKA AESIDQKNDS QLVIEAYKSG120
 FEPPGDIIFE DYTQPMKRTV SDNSLSNSRG EGKPDLKFGG KSKGKLWPFI KKNKLMSLLT180
 GGPFSF 186

(2) INFORMATION ON SEQ ID NO. 212:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 60 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 212:

ISGRRVSLNF VSEFSITEFC PCWCLGYRPD GPGSFPPSCSG LEVSPLHFLK ACVQCSPKSI60

(2) INFORMATION ON SEQ ID NO. 213:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 68 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 213:

DLCSTLSATK GSITCFLNKA LVSPPASSGL HYSETNSTSF AGGITVPISR LGPALQTSFG60
LLVLLTLL 68

(2) INFORMATION ON SEQ ID NO. 214:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 54 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 214:

TISFFKSKRG LKQEGTGTSS QMDLGEHCTQ ALRKCKGLTS RPEQDGKLPG PSGL

(2) INFORMATION ON SEQ ID NO. 215:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 276 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 215:

LPTAFLLSSV FWIFMTWFIL FFPOLAGAPE YFSFIESIVA FLYFFYKTWA TDPGFTKASE 60
 EEKKVNIITL AETGSLDFRT FCTSCLIRKP LRSLHCHVCN CCVARYDQHC LWTGRCIGFG120
 NHHYYIFFLF FLSMVCGWII YGSFIYLSSH CATTFKEDGL WTYLNQIVAC SPWVLYILML180
 ATFHFSWSTF LLNNQLFQIA FLGLTSHERI SLQKQSKHMK QTLSLRKTPY NLGFMQNLAD240
 FFQCGCFGLV KPCVVDWTSQ YTMVFHPARE KVLSRV 276

(2) INFORMATION ON SEQ ID NO. 216:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 49 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 216:

SPSRSPVVFA GEFLFKHPFV EESLMSFFHP DLHLMNPKAI STQFLYSVF

49

(2) INFORMATION ON SEQ ID NO. 217:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 37 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 217:

KEINNYIRKE KNFKYLQPST PNHPQDRWVQ KNAPWFY

37

(2) INFORMATION ON SEQ ID NO. 218:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 52 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 218:

KFSSKDDRTS RRRSIIISER KKILSIYNPL LLITPKIGGS RKMHLGFTEE RS

52

(2) INFORMATION ON SEQ ID NO. 219:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 150 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 219:

DKRNGIISKK LSPEKTTLKS ILKRKGTS defense SKSRVRKRAS SLRFKRIKET 60
 KKELHNSPKT MNKTNQVYAA NEDHNSQFID DYSSSDESLS VSHFSFSKQS HRPRTIRDRT120
 SFSSKLPSHN KKNSTFIPRK PMKCSNEESC 150

(2) INFORMATION ON SEQ ID NO. 220:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 83 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 220:

NKWNKSKLGK EISKATQSLD PAQLADPCHS LAVAASLCSL KGEPGQCFPS PWAWSLHSGK60
QTSGPFPKSQ ECLAAWWVLI AMF 83

(2) INFORMATION ON SEQ ID NO. 221:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 83 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 221:

NSKLVDRCME TWLLRHWSF SLCVSCWGVV MIVSALTHCT RWQQDTALHK MAAPLQLPPQ60
PPSLHPRFG LWFLSSVTYC LRS 83

(2) INFORMATION ON SEQ ID NO. 222:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 90 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 222:

CLHNREPDI RILSSYYGI LRPRSYLQTK WPWSLQNIAM STHQAARHSW DLGKGPLVCF60
PLCSDQAQGL GKHWPSPFS EHREAATARE 90

(2) INFORMATION ON SEQ ID NO. 223:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 114 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 223:

QSLRHCLNLI SLQRDGAFKE PGAGPVSSKA LDVFLVRTRR GCQMPLKPSG LVWPRAAGQG 60
RAEKWSSSQL ALPSPTQPRP RWSLDSILTS ASPKVQMSKC LVVQSQEMGS YLKS 114

(2) INFORMATION ON SEQ ID NO. 224:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 145 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 224:

GCVGGGRAEA MAEKFDHLEE HLEKFVENIR QLGIIIVSDFQ PSSQAGLNQK LNFIVTGLQD 60
IDKCRQQLHD ITVPLEVFY IDQGRNPQLY TKECLERALA KNEQVKKGKID TMKKFKSLLI120
QELSKVFPED MAKYRSIRGE DHPPS 145

(2) INFORMATION ON SEQ ID NO. 225:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 95 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 225:

GQTMRTEGLR GVSRAQSHLS RKVASALAVP ASRRIAVPGD LHTGRVSWLR RRVILPPDAS60
ILSHVFRKYF RKFLNQQAFK FLHGVDLAFN LLIFS 95

(2) INFORMATION ON SEQ ID NO. 226:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 87 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 226:

ALRPPLYALG QQVGAVTGPAA DCSATAPLDF WIEWKQSQNS GLLGGWQRGM VRGPPFISLF60
SIRWQSTGHP WWVSGPRPMP TLPFESR 87

(2) INFORMATION ON SEQ ID NO. 227:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 79 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 227:

APALATQPPL SLPRGTGPAY LNSLTLMLQT WLLDSKLLSS NVLLPHFHFL HICLLLYWFL60
 LLNLYFHSWV LCLPPFFSA 79

(2) INFORMATION ON SEQ ID NO. 228:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 87 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 228:

RSMSVEASFV CLGTTGRCCCH WSCRFLSNSP FGFLDILETK SEQWPTGGLA EGYGKRTSFH60
 LPVQHPMAVH RSSLGVVRPK THAHLTL 87

(2) INFORMATION ON SEQ ID NO. 229:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 150 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 229:

ATLSRFFGRI FNRLRLTQVFP FLFSSPNDKK SFCSIEGEWN GVMYAKYATG ENTVFVDTKK 60
 LPIIKKKVRK LEDQNEYESR SLWKDVTFNL KIRDIDAATE AKHRLEERQR AEARERKEKE120
 IQWETRLFHE DGECWVYDEP LLKRLGAAKH 150

(2) INFORMATION ON SEQ ID NO. 233:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 206 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 233:

DSLRRGLGIC LWEFIHLSLL FTSPKPGFPL LKPAVISQLE GGSELGGSSP LAAGTGLQGS 60
 QTDIQTNDL TKEMYEGKEN VSFELQRDFS QETDFSEASL LEKQQEVHSA GNIKKEKSNT120
 IDGTVKDETS PVEECFFSQS SNSYQCHTIT GEQPSGCTGL GKSISFDTKL VKHEIINSEE180
 RPFKCEELVE PFRCDSQLIQ PSREQH 206

(2) INFORMATION ON SEQ ID NO. 237:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 57 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 237:

RIRRSALIFS KGVQRWRRVF GRRVSPGSGN TESEASDYRK KQGTSKVFGR RVLKKIQ 57

(2) INFORMATION ON SEQ ID NO. 238:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 44 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 238:

GTLFFTVVTG FALCVPAAGT YPPSENPPPS LYTLGKDQCR TPDP

44

(2) INFORMATION ON SEQ ID NO. 239:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 74 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 239:

NLYPTLEFNP SHFVVELTGF FSTPFFRTPL RYLVFYGSW LRSLCSRCRD LPAFRKPAAI60
SVHPWKRSVQ NAGS

74

(2) INFORMATION ON SEQ ID NO. 243:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 183 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 243:

AAVAFGAKGT SPAEARSSRG IEEAGPRAHG RAGREPERRR SRQQRRGGHQ ARRSTLLKTC 60
ARARATAPGA MKMVAPWTRF YNSCCLCCH VRTGTILLGV WYLIINAVL LILLSALADP120
DQYNFSSSEL GGDfefMDDA NMClAIAISL LMILICAMAT YGAYKQRAAG SSHSSVTRSL180
TLP

183

(2) INFORMATION ON SEQ ID NO. 244:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 157 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 244:

CQHVHCHCDE SSHDPDMCYG YLRSVQATRS WIIPFFCYQI FDFALNMLVA ITVLIYPNSI 60
 QEYIRQLPPN FPYRDDVMSV NPTCLVLIIL LFISIILTFK GYLISCVWNC YRYINGRNSS120
 DVLVYVTSND TTVLLPPYDD ATVNGAKEP PPPYVSA 157

(2) INFORMATION ON SEQ ID NO. 251:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 81 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 251:

ATKTVPRQRW SPPHCPRPNP SLNLLRCGWG NRGKTEAPDA FSLLCSSAID CPDVQRETHT60
 RFAHENWGAD GQADRLCLFS E 81

(2) INFORMATION ON SEQ ID NO. 252:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 97 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 252:

GVDGETEAKL RHLMHSAACCA AVPLTALMFR EKRTQGLPMR IGEQMAKQIG YVCFLSDEVR60
KPCGSGGHLW FILFPYPWLL EMVTFRVQL HLSEHYC 97

(2) INFORMATION ON SEQ ID NO. 253:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 114 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 253:

LEILGIFSRV SKLSSSPTDT HPSSQIGVAI LGGRVVYGT P GCLHISQNYP RTIVPKSRVF 60
TGRQNLFSMP VPQLLSQIPI LGSHQLPIPH QTATVPSLSP YCSFKSCSQE RNCH 114

(2) INFORMATION ON SEQ ID NO. 254:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 53 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 254:

IPSPQGPFCR SYSDPRKCPF PIVVLCLWGL VYPRGNCGEI IGLRVKRALV LEL

(2) INFORMATION ON SEQ ID NO. 255:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 35 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 255:

QVDTLILSTRK GLKLQNQCSL DSQTNDFSTV TPGID

35

(2) INFORMATION ON SEQ ID NO. 256:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 41 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 256:

TKPQRHRTTM GKGHFLGSEY DLQNGPCGLC IYPYAVPWSN A

41

(2) INFORMATION ON SEQ ID NO. 260:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 205 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 260:

GSVKVPASPR PGGTSLGPV AAKELFSRNP NGRRGQLPRP PGSLTLLLFF SSPASRGPAS 60
 LSPGGIRLLL PPPPHLLPGQ PACPAAVMCD KEFMWALKNG DLDEVKDYVA KGEDVNRTLE120
 GGRKPLHYAA DCGQLEILEF LLLKGADINA PDKHHITPLL SAVYEGHVSC VKLLLSKGAD180
 KTVKGPDGLT AFEATDNQAI KALLQ 205

(2) INFORMATION ON SEQ ID NO. 264:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 180 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 264:

RNMSSFSRAP QQWATFARIW YLLDGKMQPP GKLAAMASIR LQGLHKPVYH ALSDCGDHVV 60
 IMNTRHIAFS GNKWEQKVYS SHTGYPGGFR QVTAAQLHLR DPVAIVKLAI YGMLPKNLHR120
 RTMMERLHLF PDEYIPEDIL KNLVEELPQP RKIPKRLDEY TQEEIDAFPR LWTPPEDYRL180

(2) INFORMATION ON SEQ ID NO. 265:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 78 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 265:

VIGYPSRINS EPSPVIYNRP GNNVKLNCMA MGISKADITW ELTDKSHLKA GVQARLYGNR60
 FLQPQGSMTH SACHKEGW 78

(2) INFORMATION ON SEQ ID NO. 266:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 40 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 266:

ATPLCGMLNG SLIPGVEEIC FHTDEPEPLP SDATYPLTPT

40

(2) INFORMATION ON SEQ ID NO. 267:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 136 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 267:

VGIWQEDHLP QSLGFLNKKE IVFLSWLLRL LKLALPLKYD ISFAVLNLKL VASSVAHFQF 60
 LYQASLLSFP LRMGQVCSGG HSVRFSRGFG RGFKGKYSGG RMGSGVKVGD KGGRAKGGVE120
 GWGPyLDRGM PGGQGK

136

(2) INFORMATION ON SEQ ID NO. 268:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 92 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 268:

LVYPKQGTKE PGKRSGHVKR DTQDTLRDQS GSTPVLLPEC LCVNPCFLQN KRQQRKLLNQ 60
 NTDPMRNGAC FCDPGELSAR LQE LTDGQLL IF 92

(2) INFORMATION ON SEQ ID NO. 269:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 103 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 269:

NLVYTMWLQI YVN VHFEHIY VLWKEMLVTK IRFTLKEEEF YSKHSNILFK CFKIQSIVFK 60
 VAVKASTYVK TQKEGSSDKN TAPLLCCFSC SLYTLSKHLL SGA 103

(2) INFORMATION ON SEQ ID NO. 270:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 82 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 270:

FIYKOSKVRD IFAVTLAILS LQSPTSRVQC TSNNSLKTRH LTISVYLVCK VNKKSSIKE 60
 LCFYQRSLPS EFLHKLMPSL QL 82

(2) INFORMATION ON SEQ ID NO. 274:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 95 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 274:

QQHHLPQSLG FLNKKEVVFL TWLLRLLKLA LPLKYDISFA VLNLKLVASS VPHFQFLYQA60
 SLLSFPIRMD MCCSACHVCN ASCREFGHSI KEKIQ 95

(2) INFORMATION ON SEQ ID NO. 275:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 56 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 275:

LLHQYHTSSF YTKPVSSVFP LEWTCAVQRV MSVMLHAESL VIVLKRKYSE VTMSPE 56

(2) INFORMATION ON SEQ ID NO. 276:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 69 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 276:

HAEQHMSILM GKLRRLAWYR NWKCGTDEAT NFKFRTAKLM SYFKGRANFN NLNNQVKNTT60
 SFLLRNPND 69

(2) INFORMATION ON SEQ ID NO. 277:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 95 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 277:

YLEISPLKP SLAPTSCLM PQGFPPHFCN PRYPSLSTPS QTPTPGIARE DFGLANCVGY60
 VSVVLI RDVH DCQSAFLTSV TTLLRCNSSQ KKTFS 95

(2) INFORMATION ON SEQ ID NO. 278:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 133 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 278:

PTQFARPSS RAIPGVGVWD GVDNEGYLGL QKWGGNPWGI SPQEVGASDG FRGDISNIYQ 60
 PWALSPCCSQ HGPHTSSLRL TWELVRNAGS PRSIELEAVL TRSPVIFMAQ SSFLRDRCRL120
 LSAGMRHPWG RCG 133

(2) INFORMATION ON SEQ ID NO. 279:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 102 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 279:

LKQHSHNQHN LLGQSLHGQS LGWESGMGWI MKDTWGCRSG VGIPGASVHR RWGPAMASGV 60
IFFIYISPGL SRPAAHSMVL TPAASALPGS LLEMQDLPDL LS 102

(2) INFORMATION ON SEQ ID NO. 283:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 86 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 283:

VYSANEQQNF QFIDGYSAAD ESLCVSHFNF CKQRHRPRTV RGRTSFSSKL PRHNKENSTF60
ISRKPMECSN EEVVNQGQSD GSMGKF 86

(2) INFORMATION ON SEQ ID NO. 284:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 69 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 284:

GAELVFLQNC LGIIRKIALL FQGNRWNVQM RKLLIKGSRM DQWVNFRWRQ GGAYIHSNPD60
VIWSGQGWK 69

(2) INFORMATION ON SEQ ID NO. 285:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 59 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 285:

LTTSSFEHSI GFLEIKVLFS LLCLGNFEEK LVLPLTVLGL CLCLQKLKWL THKLSSAAE 59

(2) INFORMATION ON SEQ ID NO. 286:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 65 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 286:

GKEPQPESSNS IMVKFPTESS CEWVIRKNED PKDKNQRQMG SVTGSLSL60
CQGGD 65

(2) INFORMATION ON SEQ ID NO. 287:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 48 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 287:

FLSFQGSSFFL ITHSQDDSVG NLTMIELLSG WGSFPHRKDI LKTKKYLN

48

(2) INFORMATION ON SEQ ID NO. 288:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 32 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 288:

ARNIQSDLEW MIKIQSQTPS VFDFCLLDPH FS

32

(2) INFORMATION ON SEQ ID NO. 292:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 76 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 292:

CAKLETGFDF LSYLFAFCAS PSNLVHLSSH SCYFQVKQDI LGVKSLWVFC FYVYKNGFCV60
 PFPCKYQLIW KLTIIIM

76

(2) INFORMATION ON SEQ ID NO. 293:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 63 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 293:

VELSLLFPQL SQLLVNFKEA GHDDSHLLSQ NFGRRRWADS LSPGVQDEPG QYGPTSSLTK60
 HPH

63

(2) INFORMATION ON SEQ ID NO. 294:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 73 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 294:

PPKCLVSLN NMNETKDEPD YLVTHRRRTS SSGNQILFQA WHIKGKKGSE RRVRKYHLKP60
 QKIWQKTASK SIR

73

(2) INFORMATION ON SEQ ID NO. 298:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 132 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 298:

PLGPASSAFG PSGSKSRSEE GRDGTASPGT FKYHFWSPSLS SLREWTSQST SSGLSDL LLC 60
 LYQPWQGSRI HLVGSGPSQY HWGSNKFLEP QSLGPGSQLI GDGVPFQARA EFGTSGHELE120
 GNSVSYELGP WP 132

(2) INFORMATION ON SEQ ID NO. 299:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 70 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 299:

ESRRGALAGP LSKAGEGRPG WYLNVPGMLS HPFLPHSYSL TLMAKARDAG PKGKNVLSVF60
 SGFYSLVSLH 70

(2) INFORMATION ON SEQ ID NO. 300:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 143 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 300:

GVKAREYRED VFTFRACVSG FGHQGQRGVGV RKEGMGQHPW DVQVPSWSPF SSLREWTSQS 60
 TSSGLSDLLL CLYQPWQGSR IHLVGSGPSQ YHWGSNKFL PQLGPGSQL IADGVPFKLV120
 PARAEFGTSL KGNSTVYELG PWP 143

(2) INFORMATION ON SEQ ID NO. 304:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 408 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 304:

FANWEFMGTE QLQPQLPSPK VWSCRGCRQG PTKFNQVSRM QTPAPVSRV GLAVSLTPPP 60
 SGQSGPSVMG KAAACPATPA SAPSQGLSFG GPVSCWPGPSP LLHLIGGRQL LDLCPGCGRS120
 LPFSSSSSSS VSNDSAPDGP RGLGCFGGVV LGGRGFKYLL YFLFVAATQQ ILLLGRASAF180

LKRDVGDPNV VAPAFFAVAG HLHQAVALPG VRVRVRDQET MQVSGLGGAL GLGRLSQELR240
 QALHARHPHD VDVVVTAEGL DEREVDLQGD VILLLLVNGQ EAEDHAVWVH IHQLGRLVHP300
 HCEAILALSG HQKLLHRGGH RLHLLRRVVA RHELFQRHVA IIIHSGCGST AVPREKLQNP360
 SQRAQNLPTV LERSSKTEFGK QRNPSRKGGK IYCKVLGEDN PGSCGNQR 408

(2) INFORMATION ON SEQ ID NO. 305:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 169 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 305:

GWGVWQAGLD PVLGPPSSAV PSLLLGVVSM VWPHLQLCLS AVPLASSSLN SAAWSPVSSR 60
ARQGWWGGWCW QQLLSWCCLS GLHLRGRNNGP GYRGQIHPGW SPRPPGLGAA GGRWLLVGRW120
PSCLACLPCL SSSPNALSVS AFLAPGLSTP SAYKAVSPPQ TTVWLQPIR 169

(2) INFORMATION ON SEQ ID NO. 306:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 120 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 306:

ILQLGHQFPL VPARAGAVGV GSSFSLGATF PASTSEVGMG QAIEVRFIQA GVLVLRAWGL 60
LGGAGCWWEG GHRAWLVFPA SLLLTLCLS LLSWPRASPL PQLIRLCLL RPQSGSSPSG120

(2) INFORMATION ON SEQ ID NO. 307:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 472 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 307:

SESLTHPGEE PGGPPPGGAP TMATPLVAGP AALRFAAAAS WOVVRGRGCVE HFPRVLEFLR 60
 SLRAVAPGLV RYRHHERLCM GLKAKVVVEL ILQGRPWAQV LKALNHHFPE SGPIVRDPKA120
 TKQDLRKILE AQETFYQQVK QLSEAPVDLA SKLQELEQEY GEPFLAAMEK LLFEYLCQLE180
 KALPTPQAQQ LQDVLSWMQP GVSITSSLAW RQYGVDMGWL LPECSTDSV NLAEPMEQNP240
 PQQQLALHN PLPKAKPGTH LPQGPSSRTH PEPLAGRHFN LAPLGRRVQ SQWASTRGHH300
 KERPTVMLFP FRNLGSPTQV ISKPESKEEH AIYTADLAMG TRAASTGKSK SPCQTLGGR360
 LKENPVDLPA TEQKENCLDC YMDPLRLSLL PPRARKPVCP PSICSSVITI GDLVLDSDEE420
 ENGQGEGKES LENYQTKFD TLPTLCEYL PPSGHGAIPV SSCDCRDSSR PL 472

(2) INFORMATION ON SEQ ID NO. 308:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 138 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 308:

PGFALRGAIG PREGRGGGRG YRRSSGRQPL VSWQRQARCG SGGAMSFC SF FGGEVFQNHF 60
 EPGVYVCAKC GYELFSSRSK YAHSSPWPAF TETIHADSA KRPEHNRSEA LKVSCGKCGN120
 GLGHEFLNDG PKPGQSRF 138

(2) INFORMATION ON SEQ ID NO. 309:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 121 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 309:

SYGATAAFLS RSEASYFRTD CETGFRFLPS WTRGQGCAPS ACLPSRSQTI PTLAGLEGFD 60
 QSGSCSDQGQ GGWQGRPPFP FCLLSSLGDV GLSFGEDESL SWNWASQGRV QRQGQEKKVR120
 V 121

(2) INFORMATION ON SEQ ID NO. 310:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 249 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 310:

SEQGAKSADS VAAQPRPVPA EGMNHQQMSL FSKKRKGLVQ SRGLGSVLMF QPLRPAFLSR 64
 RPGFQLQGGM ANVWPQCGGR LGVVWAARLV TLGGRSFFAF RDKLQRAAEY SESGLPRLGA120
 VVQELVAQPI ATLATGHLQG FRSIVLRTLH HAVGVNGLGE RRPWRRVCIL RAAGEQLIAT180
 LGTHVNARFK VILENLAPEE AAERHGATGT AARLPLPTDQ RLPTRRPPVP ASTSPPLPRT240
 NRSPEGESR 249

(2) INFORMATION ON SEQ ID NO. 311:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 204 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 311:

LGSSWIFVNL TVRFCILGKE SFYDTFHTVA DMMYFCQMLA VVETINAAIG VTTSPVLP SL 60
 IQLLGRNFIL FIIFGTMEEM QNKAVVFFVF YLWSAIEIFR YSFYMLTCID MDWKVLTWLR120
 YTLWIPLYPL GCLAEAVSVI QSIPIFNETG RFSFTLPYPV KIKVRFSSFL QIYLIMIFLG180
 LYINFRHLYK QRERRRYGQKK KKIH 204

(2) INFORMATION ON SEQ ID NO. 312:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 155 amino acids
 - (B) TYPE: Protein

(C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 312:

RISGCSPRSS CCFQCPTADR FKKPTEQQQN EVFLRSIQKC TVPPLTRTST QVNGLSQCRR 60
 WKAAIFYVCA QPYSLEVCLA YSNISSLASKA VHCYCQFDLH TVFPLDPCYH LDLVCVCVYV120
 CLCVCGLVWF ETGSCTVTG CSAVAQSRLT AALTS 155

(2) INFORMATION ON SEQ ID NO. 313:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 70 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 313:

AVMDQVMQFV EPSRQFVKDS IRLVKRCKTP DRKEFQKIAM ATAIGFAIMG FIGFFVKLIH60
 IPINNIIIVGG 70

(2) INFORMATION ON SEQ ID NO. 314:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 112 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 314:

FRNRKHLERK KKNPQNIQAN LYSVFSHPH TCSPISKMKN SLPKCIQPPT MMILLIGIWIN 60
FTKKPMNPII ANPIAVAMAI FWNSFLSGLV HLLTSRMESF TNCRLGSTNC IT 112

(2) INFORMATION ON SEQ ID NO. 315:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 110 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 315:

DEKLSSKMYS ATNNDVINRN MDQFHKEANE SHYSKSYCCC HGNLLEFFSI RFSASFNQPN 60
GVLYKLPTWL NKLHYLIHDC LPNRHLKCQG HVALELADGG PPEPESGFLP 110

(2) INFORMATION ON SEQ ID NO. 316:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 113 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 316:

GSSEGSYSSQ TETCPLTPSL VTGSMFAQNF LRGLSLQKSN LLPECCLASE NLTLSFPSVN 60
GHRCVAQGSE TSESRAQWHG VALVVRKVIG QLYCKRNKYV VQFCKCQVCS VVL 113

(2) INFORMATION ON SEQ ID NO. 317:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 100 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 317:

GKRGQLWSLN LLAPCAGYKT RSWSKIALTP NPNAVQDLGA TQPVVIWCWF PFFVCLLVSK 60
IALLGTAWKV QAFLLARSGL ASSPCLHSVP KEDFCSTLWS 100

(2) INFORMATION ON SEQ ID NO. 318:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 101 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 318:

SQIISNLVDN YSIQELMFSE TVINRIFTSG LAGRLGGRKG RVEGWVAHQN GDEPGKTTML 60
LFLYPLKPI RVLNDAFFVC FLIGSQISFS IKNWGYKPKE T 101

(2) INFORMATION ON SEQ ID NO. 319:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 368 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 319:

WWRLNNKSAK VRQQAADLIS RTAVVMKTCQ EEKLMGHLGV VLYEYLGEY EVPLGSILGA 60
 LKAIVNIGM HKMTPPIKDL LPRLTPIKLN RHEKVQENCI DLVGRIADRG AEYVSAREWM120
 RICFELLELL KAHKKAIRRA TVNTFGYIAK AIGPHDVLAT LLNNLKVQER QNRVCTTVAI180
 AIVAEETCSPF TVLPALMNEY RVPELNVQNG VLKSLSLFLFE YIGEMGKDYI YAVTPLLEDA240
 LMDRDLVHRQ TASAVVQHMS LGVYGFGCED SLNHLLNYVW PNVFETSPHV IQAVMGALEG300
 LRVAIGPCRM LQYCLQGLFH PARKVRDVYIW KIYNSIYIGS QDALIAHYPR IYNDDKNHLI360
 IRLMNGL 368

(2) INFORMATION ON SEQ ID NO. 320:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 121 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 320:

YPFFTLQQRN RVFDISSLVK EMLQNVNCFK LKLPLKRPRY IYLIVYIMFN ICQSILQVCS 60
 FISIKYGYVV AQLLKWCIV YICTPNNIVC TFCFLYICCA GFFRLYQCNL CLLRYVQKMS120
 I 121

(2) INFORMATION ON SEQ ID NO. 321:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 114 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 321:

FFFFFFFFF HSNVYFFFF FFFFEGKNVI YLHCFHSSTV VLGLNISITL LFPIYILLEY 60
 YYKYNIQFKK TYGETQLMFF SPLYRLLSII RLQWKFIWTF SVHILKGRDY TDKA 114

(2) INFORMATION ON SEQ ID NO. 322:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 597 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 322:

EKCGQYIQQKG YSKLKIYNCE LENVAEFEGL TDFSDTFKLY RGKSDENEQD SVVGEFKGSF 60
 RIYPLPDDPS VPAPPRQFRE LPDSVPQECT VRIYIVRGL E LQPQDNNGLC DPYIKITLGK120
 KVIEDRDRHYI PNTLNPVFGF MYELSCYLPQ EKDLKISVYD YDTFTRDEKV GETIIDLNR180
 FLSRFGSHCG IPEEYCVSGV NTWRDQLRPT QLLQNVARFK GFPQPILSED GSRIRYGGRD240
 YSLDEFEANK ILHQHLGAPE ERLALHILRT QGLVPEHVEL RTLHSTFQPN ISQGKLQMWV300
 DVFPKSLGPP GPPFNITPRK AKKYYLRLVII WNTKDVILDE KSITGEEMSD IYVKGWIPGN360
 EENKQKTDVH YRSLDGEGNF NWRFVFPFDY LPAEQLCIVA KKEHFWSIDQ TEFRIPPRLI420
 IQIWENDKFS LDDYLGFL EL DLRHTIIPAK SPEKCRLOMI PDLKAMNPLK AKTASLFEQK480
 SMKGWWPCYA EKD GARVMAG KVEMTLEILN EKEADERPAG KGRDEPNMNP KLDLPNRPET540
 SFLWFTNPCK TMKFIVWRRF KWVIIGLLFL LILLLFVAVL LYSLPNYLSM KIVKPNV 597

(2) INFORMATION ON SEQ ID NO. 323:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 76 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 323:

IRRDKAYLTF KWRDDEPLI QSERTKRQSS DKSMTWMKCP TGALDIFNFC DYVKEVDFTD60

NGAEANISKR NPNFFP

76

(2) INFORMATION ON SEQ ID NO. 324:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 90 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 324:

FFFLYSFSSDN HDFRSFKTIY LAFVSGGELA ISIKLKPAIIIV NLRTGLSWGS EGKELFEQMC60
VGGTGFHPTA KLVILLEISFY NTKISLCQRF 90

(2) INFORMATION ON SEQ ID NO. 325:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 60 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 325:

TRSLLYFHMF LILWEEVGIP FTNVGFCSII CKVHLFHIIA EIKDVQGPCR AFHPCHTLIR60

(2) INFORMATION ON SEQ ID NO. 326:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 42 amino acids

- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 326:

IRNEKKGCVL SVGEMELVLV VLEQDRHLVL MLWSFVIVEH RG

42

(2) INFORMATION ON SEQ ID NO. 327:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 50 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 327:

ATCSDNRSKI FQLFNLECYV LLEPAICMYR INNFYSFGQV ILRQSQWIQK

50-

(2) INFORMATION ON SEQ ID NO. 328:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 48 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 328:

PKGVVVNPGA LLSQRTTASE LSACPAPTLP GPVPSHLLIR HSLSSHSL

48

(2) INFORMATION ON SEQ ID NO. 329:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 100 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 329:

ISEVAVNFSV LLLASVCLPI DTHYTNVPSK CSLHICFHCV PTGAMKCVRS PSSGGMSAAL 60
TTAIRIVLCG IFIYINFICT VISLFICQVT ICKSYTHKLL 100

(2) INFORMATION ON SEQ ID NO. 330:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 122 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 330:

EAQKWDCIWT KNYKKVQSLV SRMQALALGD GSSLENAAAD SLFQRRSFER RVCYISFFTV 60
TLWRLKDLVV SCFLKITGIW RPVKPFWTDI SSKYFFIKVF EGDDFLDLWL DILGFPDYIV120
LS 122

(2) INFORMATION ON SEQ ID NO. 331:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 124 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 331:

ENWASRYFQS SFTEQKVWVG HWLEGDSPTL TVTIWAATGG IVQLASRCIP HLKYCWIKAI 60
 YTLAKSKAKE IALDPESQQD HLIFPNQHLG QQLPSTFLFH SWFFFFFFLQ DLAVTQDGVO 120
 WHDH 124

(2) INFORMATION ON SEQ ID NO. 332:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 82 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 332:

LNVDLITRR LCEKIYVYIY MICRSHFFYQ ALFSLQSHSL TVCNSWFMLM IDKYPVFVTF 60
 SNYHCNDNLS HVYTCNFLAS FP 82

(2) INFORMATION ON SEQ ID NO. 333:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 82 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 333:

RLVKYKNSLN REKASQVFPL KVKYGTFHFN KVNDFKNLTF FRRKKKTSYE PSLVNHLVYK60
IFPLFKKCFC KILRSHEIMP WS 82

(2) INFORMATION ON SEQ ID NO. 334:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 75 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 334:

KLEYIMSTAN CSFCLILTDY AFPQRSSRSIYRHIYGSGL KEKTISSIM IYHCAINQKN60
QVRNTIKTTL KGKNF 75

(2) INFORMATION ON SEQ ID NO. 335:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 72 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 335:

NEYCSWSTCI KQKTCQLLGA NTQNLVPVFF FFLTTIVYTF LKIKFVTKSP MSFTCIYDHQ60
MVIRATYVNA CL 72

(2) INFORMATION ON SEQ ID NO. 336:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 93 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 336:

THNTSTITAY RKLQSTLQAS KVHSVAQSPW RGRDLKVLM MS SYFTCFLLST QCKMNFLHSL 60
YFRLKIDSFL VLTLTLEGTV VPGKRSRFTV PNH 93

(2) INFORMATION ON SEQ ID NO. 337:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 99 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 337:

LGPRGEIEVY LAKSLAEKLY LCQYPVRPAS MTYDDIPHLS AKIKPKQQKV ELEMAIDTLN 60
PNYCRSKGEQ IALNVDGACA DETSTYSSKL MDKQTFCSS 99

(2) INFORMATION ON SEQ ID NO. 338:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 56 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 338:

GKSRRSACPS ASRNTCWSRR RRRPRRSAQS APLCCGNSWG SGCRWPSQAL PSAAWA 56

(2) INFORMATION ON SEQ ID NO. 339:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 59 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 339:

GRAEGLLVHQ LRGIRAGLVG AGPVHVQRNL LPFAAAIVGV QGVDGHLKLY LLLLGLDLG 59

(2) INFORMATION ON SEQ ID NO. 340:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 157 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 340:

QPSSLHHCP YPYPPRHLLA TPLLPQLLA GSPAHASLIS FLASPQRASR QHGGPSQRAG 60
TLSCPPLVELG GSSGGRGLCH GSADPTNRAA EPQERGEPAQ GDRRPLPEWG RVSLAESPAGA120
EFRCPGSLGE WGEIPEKESS AHPKTEEAAL CPAPGSH 157

(2) INFORMATION ON SEQ ID NO. 341:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 260 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 341:

NHSCWQGPQL MPASSPFLLA PKGPPGNMGG PVREPALSVA LWLSWGAALG AVACAMALLT 60
 QQTELQSLRR EVSRLQGTGG PSQNGEYPW QSLPEQSSDA LEAWESGERS RKRRAVLTQK120
 QKKQHSQLHL VPINATSKDD SDVTEVMWQP ALRRGRGLQA QGYGVRIQDA GVYLLYSQVL180
 FQDVTFTMGQ VVSREGQGRQ ETLFRCIRSM PSHFDRAYNS CYSAGVFHLH QGDILSVIIP240
 RARAKLNLSHGTFGLGVKL 260

(2) INFORMATION ON SEQ ID NO. 342:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 201 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 342:

TPASWIRTPY PWACRPLPRL RAGCHITSVT SESSLEVALM GTRCRTECCF FCFWVSTALL 60
 FRDLSPLSQA SRASELCSGR LCQGYPSPFW EGPPVPCSRL TSLLRLCSSV CWVSRAMAQA120
 TAPRAAPQLN QRATESAGSL TGPPMLPGGP LGASKKGDEA GMSWGPCQQL WFQEWSKEV180
 AGRVRVRAVV QKGRRLLRKE K 20*

(2) INFORMATION ON SEQ ID NO. 343:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 165 amino acids
 - (B) TYPE: Protein

(C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 343:

GRRSRMEIPV PVQPSWLRR A S A P L P G L S A P G R L F D Q R F G E G L L E A E L A A L C P T T L A P Y Y L 60
 R A P S V A L P V A Q V P T D P G H F S V L L D V K H F S P E E I A V K V V G E H V E V H A R H E E R P D E H G F V A R 120
 E F H R R Y R L P P G V D P A A V T S A L S P E G V L S I Q A A P A S A Q A P P P A A A K 165

(2) INFORMATION ON SEQ ID NO. 344:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 116 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 344:

T A L A Q P Q A S Q A Q S P H P P N V L D C T D L P L Q T I Q A W F P R P D P S P A T R Q S T T A P S S P F S A V K P Q 60
 P A T P D S G T L F R L P Q L L D T R P T R T P N T K L Y R L S H P N L P R L C T D V L G P L P N S N Q T P S P 116

(2) INFORMATION ON SEQ ID NO. 345:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 111 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 345:

DIRAESGEVG VGESVQFGVG CSSWPGVQEL GQSKKGSRVW CGWLGFHGRK WAGGGSCRLS 60
 GCRGRIGSWE PGLDGLEEV CAVQDVWGVG GLCLTGLGLG QGCLHHNLVS K 111

(2) INFORMATION ON SEQ ID NO. 346:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 53 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 346:

RTEEEKKKKE KNQQPQLPTP KCWSFYVKGR IPGYGHGVYK YVGRFSANSF PTV

53

(2) INFORMATION ON SEQ ID NO. 347:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 51 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 347:

NELKWTNRAE LSVGWQSWKP AFPASHQLNE VSMSIQLRLF FKNNHAFLNP N

51

(2) INFORMATION ON SEQ ID NO. 348:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 150 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 348:

RHAGGGALGN LPPQPPGSGV MHPETCPSTF LASPLPHSIA PGLFLLDFVL VLALFLIFFY 60
 YESPGRRGDS GSWPGPGRQV ALEMGKCLCR GAELSLCFSF FPLLLPLHTP VAGRNLGFPE120
 SLGVPPFLPH PGGTPRAPGL FLLLFSFWAV 150

(2) INFORMATION ON SEQ ID NO. 349:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 131 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 349:

RSFLTRSVIK LPKRKTRGET SPGPWAFLPG GVRRVGPPSF QGSRGSFQPR GCEGEGVEEK 60
 RRNRERAQRL DTDTPSPGP PAVLAQASSH CHLCVQEIHN KKKSKTKPKP KQNPKGKDLG120
 QWNNEEGRRG R 131

(2) INFORMATION ON SEQ ID NO. 350:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 151 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 350:

RKKGETEREL SASTQTLSHL QGHLPSWPRP APTVTSASRR FIIKKNQKQS QNQNQIQKEK 60
 TWGNGMRKRG GEEGRRAGLW MHNSRARGLG RKIPQRPAAC VALARHVVFG GRLPIHPVEI120
 LVAGLLGGVK PVSDRQAGKG LGDGGCGRER V 151

(2) INFORMATION ON SEQ ID NO. 351:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 108 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 351:

TLTAHEGRGG KCTEEGDASQ QEGCTLGSDP ICLSESQVSE EQEEMGGQSS AAQATASVNA 60
 EEIKVARIHE CQWVVEDAPN PDVLLSHKDD VKEGEGGQES FPELPSEE 108

(2) INFORMATION ON SEQ ID NO. 352:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 77 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 352:

KFFGNSLHAT PKCTPITLWL FSEKDFSQIV PFTPLRAALG NSPDHLLPPS RHLCVTAGHP60
 GLEHPPPPTD THEYGLP 77

(2) INFORMATION ON SEQ ID NO. 353:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 122 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 353:

TYSIHLHSQT KLKSLKVHKK IAQLKSAEYT QNCHPTVFSV FPAILFPPQT SSAPSHPKYA 60
 IVFVILIKIL KQKFIVEQFM STKVCLSCSC PVCISSGFII QIKKILKNFL VTACMQPLSV120
 PL 122

(2) INFORMATION ON SEQ ID NO. 354:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 457 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 354:

PVCEPLSCGS PPSVANAVAT GEAHTYESEV KLRCLEGYTM DTDTDFTCQ KDGRWFPERI 60
 SCSPKKCPLP ENITHILVHG DDFSVNRQVS VSCAEGYTFE GVNISVCQLD GTWEPPFSDE120
 SCSPVSCGKP ESPEHGFVVG SKYTFESTII YQCEPGYELE GNRERVQCEN RQWSGGVAIC180
 KETRCETPLE FLNGKADIEN RTTGPNVVYS CNRGYSLEGP SEAHCTENGTE WSHPVPLCKP240
 NPCPVPFVIP ENALLSEKEF YVDQNVSIKC REGFLLQGHG IITCNPDETW TQTSAKCEKI300
 SCGPPAHVEN AIARGVHYQY GDMITYSCYS GYMLEGFLRS VCLENGTWTS PPICRAVCRF360
 PCQNGGICQR PNACSCPEGW MGRLCEEPIC ILPCLNGGRC VAPYQCDCPP GWTGSRCHTA420
 VCQSPCLNGG KCVRPNRCHC LSSWTGHNCS RKRRRTGF 457

(2) INFORMATION ON SEQ ID NO. 355:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 210 amino acids
 - (B) TYPE: Protein

(C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 355:

GVRAASKEIE ELRRAHREGT SRAVTGEGPA AGRMTVPKQT QTPDLLPEAL EAQVLPRFQP 60
 RVLQVQAQVQ SQTQPRIPST DTQVQPKLOK QAQTQTSPEH LVLOOKQVQP QLQQEAEQPK120
 QVQPQVQPQA HSQGPRQVQL QQEAEPLKQV QPQVQPQAHF TAPRAGAAAA EEAGPDTDFS180
 TGAHTGHSQA SRHRELLPGA VFSFRPPGAG 210

(2) INFORMATION ON SEQ ID NO. 356:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 292 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 356:

GRAGRATMF SQQQQQQQLQQ QQQQLQQQLQQ QQLQQQQQLQQ QQLLQLQQLL QQSPPQARCH 60
 GVSGGPPQQP QQPLLNQGT NSASLLNGSM RQRALLLQQL QGLDQFAMBP ATYDTAGLTM120
 PTATLGNLRG YGMASPGLAA PSLTPPQLAT PNLQQFPQAA TRQSLLGPPVG VGVPMNPSQF180
 NLSGRNPQKQ ARTSSSTTPN RKDSSSQTMP VEDKSDPPEG SEEAAEPRMD TPEDQDLPPC240
 PEDIAKEKRT PAPEPEPCEA SELPAKRLRS SSEEPEKEPP GQLQVKAQPP AG 292

(2) INFORMATION ON SEQ ID NO. 357:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 169 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 357:

PRLPSVAVG MVRPAVSYVA GGIANWSSPC NCCKSKALCR MEPLRREAEL VPWRFRSGCC 60
 GCCGGPPLTP WQRACGGDCW SSCWCSNCC CCNCCCWSCC CCNCWSCCCC CWSCCCCCWL120
 NMVARLPARP QRSSRPHGWA GPAAPTPRPG GSGPAPGLP AATPGPVGS 169

(2) INFORMATION ON SEQ ID NO. 358:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 158 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 358:

ISKTKKYCGS PSSRIRLEGG HLEMRKARGG DHVPVSHEQP RGGEDAAAQE PRQRPEPELG 60
 LKRAVPGGQR PDNAKPNRDL KLQAGSDLRR RRRDLGPHAE GQLAPRDGVI IGLNPLPDVQ120
 VNDLRGALDA QLRQAAGGAL QVHHSRQLRQ APGPPEES 158

(2) INFORMATION ON SEQ ID NO. 359:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 119 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 359:

QSLRTLNLKN KKVLWISLEP NSARGRSPGD EKGPRGGPCA CVPRAAERRG GRCCPGAQAE 60
 ARARAGAQTG CPGGPEAGQC QAQPGPETAG WLRPPEATAG PWPSCRGSAG PEGWGHHWP 119

(2) INFORMATION ON SEQ ID NO. 360:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 187 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 360:

PPEFGWDAAE TDLLLAEEGS GWRGPHGQQV LGLLWRPRL SKLPAVDHLQ SSPRSLAEGL 60
 IQGATEVVHL DIRQGVKAND DPIPQQLTL CMRAKVPSP PEVGASLQFQ VPVGLGIVRP120
 LAPRDSSFEP QLWLWPLPGL LGSSVLPASR LLVGHRRHMVP PAGLSHLQVT ALEPNSARGR180
 STVLFCF 187

(2) INFORMATION ON SEQ ID NO. 361:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 86 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361:

STIILGKSRI EFFSRCPTRV GQGPQSRLIN SHRIQTPGKI ALRSQQLSSL YGSRKNSTKM60
 TGHPMSVMPM KPHLLEKPLN QNYLFS 86

(2) INFORMATION ON SEQ ID NO. 362:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 83 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 362:

ITKAIVFSFV FSSGYTVEVR ESLILLFGAI IKAMQQPKIK HFGSSQDDMS GDRSCGSHSN60
NLMGPEEKTG VNVLSFYMMQ ELC 83

(2) INFORMATION ON SEQ ID NO. 363:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 117 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 363:

YKNDRSSYER HANETPSSGE ALESELSFFL MSSDAASFLI FLKTVCFCGM YICTPNYLAL 60
GNHSTTQRQL NKEKFNFKYQ VLSNISQTSF FIKGLPANKV HPKYTGEKAR LLQGPRV 117

(2) INFORMATION ON SEQ ID NO. 364:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 83 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 364:

SCRCFYCMPD MPLTRFWRTP NSPRMTRRHs HVICIFSYQL QIVALLRLPP VQQEMERKHF60
SFLHTTPLDN WKYFWVITIL GYF 83

(2) INFORMATION ON SEQ ID NO. 365:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 144 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365:

QYGPSRVEVE MSYRIANTLG SFLPRLAQSR QQQQNVEDAM KEMQKPLARY IDDEDLDRML 60
 REQEREGDPM ANFIKKNKAK ENKNKKVRPR YSGPAPPPNR FNIWPGYRWD GVDRSNGFEQ120
 KRFARLASKK AVEELAYKWS VEDM 144

(2) INFORMATION ON SEQ ID NO. 366:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 116 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366:

KPTKHRCCQH PKKYRYLNPN IRSRIFFCGQ NWHSTSCWSV WAPIISTDNC YHWISRCLCP 60
 LPQPSHPHSL RKVTYPQHSI CRQVPLPSC WQAWQSASVQ IHWICPLRPS DIQARY 116

(2) INFORMATION ON SEQ ID NO. 367:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 160 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

SSENPPNTAA VNTPRSTGTS IQTSGLEYSS VVKTGIQQVA GLCGLQLLAQ TTVTGYLAA 60
 YAHYHSPATP TASGKLHILN TPFGKFLHC LLAGKPGKAL LFKSIGSVHS VPAISRPDIK120
 SVGRCWTTV ARSHFFILVL LGLILLDEVG HRVPLSFLFS 160

(2) INFORMATION ON SEQ ID NO. 368:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 227 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368:

WESMRWYVK PLETSSSKVK AKTIVMIPDS QKLLRCELES LKSSQLQAQTK AFEFLNHSVT 60
 MLEKESCLQQ IKIQQLEEVL SPTGRQGEKE EHKGWGMEQGR QELYGALTQG LQGLEKTLRD120
 SEEMQRARTT RCLQLLAQEI RDSKKFLWEE LELVREEVTF IYQKLQAQED EISENLVNIQ180
 KMQKTQVKCR KILTKMKQG HETAACPETE EIPQEPVAAAG RMTSRRN 227

(2) INFORMATION ON SEQ ID NO. 369:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 155 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369:

FIFSLLEGSSG RAVPAAQAGG KGGALLLKGG WERSWSESES ESQEGSGGLR HWCPLWPLRL 60
 EALGQAPEHK VRLSMEFCAST CTADHISLSS FWRSSFQQPL APAVSLQSPD RRLSHDPAAS120
 SWSGFCGISP AFSAFSECSP SSLRSHPAL GASDR 155

(2) INFORMATION ON SEQ ID NO. 370:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 114 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370:

DLILLRLELL IDEGHLLPHQ FQLLPQELLA VPDLLGQQLQ AASGAGPLHL LTVTQGLLQP 60
 LKALGQGPIQ LLPALLHAPL VLLLSLAAC GAQHLFKLLN LDLLQAALLL QHGH 114

(2) INFORMATION ON SEQ ID NO. 371:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 201 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 371:

TASTLRAVFP RPASESPPLR ARSDAEDLTA AMSSNECFKC GRSGHWAREC PTGGGRGRGM 60
 RSRGRGFQFV SSSLPDICYR CGESGHLAKD CDLQEDACYN CGRGGHIAKD CKEPKREREQ120
 CCYNCGKPGH LARDCDHADE QKCYSCGEFG HIQKDCTKVK CYRCGETGHV AINCSTSEV180
 NCYRCGESGH LARECTIEAT A 201

(2) INFORMATION ON SEQ ID NO. 372:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 189 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:

LATAAVTVDF CLAAVDGYMT SFTTPIALHF GAVFLNVSEF STRIAFLLLIC MVAVTSQMAW 60
 FATVVAALLS LSLGLLAVLG NVATSTAVIA GILLKITILG KMTRLTTAIT NIWKRRGNKL120
 ETSATASHST TTASTSRTFP GPVARSSGLE ALIAAHGCSQ IFRVGAGPQR RRLGRRPGED180
 GSQGRGCLF 189

(2) INFORMATION ON SEQ ID NO. 373:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 316 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:

GGDPVVSSSY RSGCSEQQK PASSDVVLPA TMSYTGFVQG SETTLQSTYS DTSAQPTCDY 60
 GYGTWNSGTN RGYEGYGYGY GYQDNTTNY GYGMATSHSW EMPSSDTNAN TSASGSASAD120
 SVLSRINQRL DMVPHLETDM MQGGVYGSGG ERYDSYESCD SRAVLSERDL YRSGYDYSEL180
 DPEMEMAYEG QYDAYRDQFR MRGNDTFGPR AQGWARDARS GRPMAAGYGR MWEDPMGARG240
 QCMSGASRLA LPLLPEHHPR VRHVPGACEV GAPSRAASRF GFRVWQWHEA DEGGLGRRGP300
 QPICEPRRRRR ESRAAF 316

(2) INFORMATION ON SEQ ID NO. 374:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 200 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:

IPAALLTGSI RMPPCFLEFFF LVRKSAVVPV FPVRPHLLHA IAKPENQNGK PPGKAPQPRM 60
 PLEHAVLGDD VLGEEGGQAE RHQTCTGPGP PWGLPTCAHS LRPLAGRSGH PGPSPVWDR120
 RCRCHACGTG RGRHRIGPHR PFFSQGQARC SHSLTGTGRA HSGRPSSRRT HKSHTFLHLS180
 RTRLLASCLS PNAAPYLSAG 200

(2) INFORMATION ON SEQ ID NO. 375:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 218 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 375:

STSHDCVPQA DAAAYSRTAD GETEARGGRG GADLPASPSP RPRLAPPWPV RSTRGARRRR 60
 TARGQAGSSS AMAAQRLGKR VLSKLQSPSR ARGPGGSPGG LQKRHARVTV KYDRRELQRR120
 LDVEKWIDGR LEELYRGMEA DMPDEINIDE LLELESEEEER SRKIQGLLKS CGKPVEDFIQ180
 ELLAKLQGLH RQPGRLRQPSP SHDGSLSPLO DRARTAHP 218

(2) INFORMATION ON SEQ ID NO. 376:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 112 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:

NQLKLKQQAG SFSQEGCKGE NILSFLLQGN HCPGVVPASGR HNL SKVQGML ARKGGILDCC 60
LLSEPSPTPQ PASWCLFSSK LSLPNLSSSE GKRESVPGFS RVGERTGKGT DI 112

(2) INFORMATION ON SEQ ID NO. 377:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 96 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 377:

VRPEHSLMVL SLDTPTSYLQ FSRRRASGTL GCKPNLGSMF ALNPNSQRSS ECIFHAAAG60
CWPRFCVFSQ PSEITSFLVA VTNSSWTTMK LIYFPI 96

(2) INFORMATION ON SEQ ID NO. 378:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 145 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 378:

SNRLVASP KK DARVKTFFPS FCREIIALVC QPVVGTTFQK FKGCWLEKEV FWIAASSQNP 60
 LLPHSLPPGV FFPNNSLYLT SLHQKASGNL FRVSVEWEKG QAKAQIFRRE SSYFWPLHVP120
 YSGIVGPDDW HSDSQLWFWE NIRGS 145

(2) INFORMATION ON SEQ ID NO. 379:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 429 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 379:

RQFEITSISV DVWHITEFDY SRLPKQSIGO FHEGDAYVVK WKFMVSTAVG SRQKGEHSVR 60
 AAGKEKCVYF FWQGRHSTVS EKGTSALMTV ELDEERGAQV QVLQGKEPPC FLQCFQGGMV120
 VHSGRREEEE ENVOSEWRLY CVRGEVPVEG NLLEVACHCS SLRSRTSMVV LNVNKALIYL180
 WHGCKAQAH T KEVGRTAANK IKEQCPLEAG LHSSSKVTIH ECDEGSEPLG FWDALGRDR240
 KAYDCMLQDP GSFNFAFAPRLF ILSSSSGDF ATEFVYPARA PSVVSSMPFL QEDLYSAPQP300
 ALFLVDNHHE VYLWQGWWPI ENKITGSARI RWASDRKSAM ETVLQYCKGK NLKKPAPKSY360
 LIHAGLEPLT FTNMFPSWEH REDIAEITEM DTEVSNQITL VEDVLA KLCK TIYPLADLLA420
 RPLPEGSIL 429

(2) INFORMATION ON SEQ ID NO. 380:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 169 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:

DVFHEGDLIG NFRVHLCDSL DVLSVLPAGK HIGECQGLQT SVDKVRLLGGW FLEIFSFAVL 60
 EHSLHRTLPV GGPADAGGTS DLVLDGPPAL PEVHLVVIVN KEKCWLGRAV QIFLQEGHGT120
 DHRGGSGRVH KLCGCKIPRG AAEDEQAGRE VKTSRILKHA IVGFPVSPS 169

(2) INFORMATION ON SEQ ID NO. 381:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 234 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:

GIPSEEWLGA FITLVYCDFA ATMQSCFQGT LFLLDLVRSGP SDLLRVGLGF ASVPQVDEGL 60
 VDVKHHHGSS GPQAATVTGH FQQIPFHGHL STHAVQPPLT LHIFFFLFPP PRVHHHPPLE120
 TLQETGGLLS LENLDLGPPF LVQLHRHQRR RALLTHGGVP ALPEEVVDALL FAGCPHRVLS180
 LLATSHCRAH HELPLDHIGI PLMELPDALF GEPAIIVEFQD VPDIHGNAGD LKLP 234

(2) INFORMATION ON SEQ ID NO. 382:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 81 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 382:

RLFAPLRTSW AVVIPGARVA LCFYKIMTYV TCLHVCLLVE FLNSQLTNHR KYYFLSYGFW60
 FTGLRGFSEY LWPQQHTQFP S 81

(2) INFORMATION ON SEQ ID NO. 383:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 61 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383:

IVNRTTACTL FEVNLEWKAR DYTLLFKIDIC GAHTIYEIVP SKKEKKKIRR SNLEQHCLIK60
A 61

(2) INFORMATION ON SEQ ID NO. 384:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 56 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 384:

PPDFFFLLFFR GYYFIYCVSP TNVYFKKSIV PGLPFQIHLK ESTCSSPVYN LIEMRK 56

(2) INFORMATION ON SEQ ID NO. 385:

(i) SEQUENCE CHARACTERISTIC:
(A) LENGTH: 139 amino acids
(B) TYPE: Protein
(C) STRAND: individual
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:

LDSSHCCSCS TALFRTQTAA AAVPRMVIRV YIASSSGSTA IKKKQQDVLG FLEANKIGFE 60
 EKDIAAENEEN RKWMRENVP E NSRPATGYPL PPQIFNESQY RGDYDAFFEA RENNAVY AFL120
 GLTAPPGSKE AEVQAKQQA 139

(2) INFORMATION ON SEQ ID NO. 386:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 95 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:

ETKHILLFLL NRCRARGRCN IYTDHHPGNS GCGCLGPEKG CGAAAAMAGI QLGAETAVGR60
 EGWGKVEGEL ARAPPPLAA STELSKRCSS SPKPR 95

(2) INFORMATION ON SEQ ID NO. 387:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 96 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:

FCIHFECLHV KTQLIYYFNI KPISFEAKLI LLFYKSNGDS FFRMLKAQCL RFMLAALLAL60
 LLPLNQVGLS SLRRHTLHYF LWLQRRHHSP RDTGFH 96

(2) INFORMATION ON SEQ ID NO. 388:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 221 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:

FIMLNIIILIK FSSFSIRCAI LSSVCLNEAI TFAFLLQVFL WNMDKYTMIR KLEGHHHDVV 60
ACDFSPDGAL LATASYDTRV YIWDPHNGDI LMEFGHLFPP PTPIFAGGAN DRWVRSVSFS120
HDGLHVASLA DDKMVRFWRI DEDYPVQVAP LSNGLCCAFS TDGSVLAAGT HDGSVYFWAT180
PRQVPSLQHL CRMSIRRVMPI TQEVLQELPIP SKLLEFLSYR I 221

(2) INFORMATION ON SEQ ID NO. 389:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 118 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 389:

KGGATCPESP QDRKRRGNLD MEKLYSENEG MASNQGKMEM EEQPQDERKP EVTCTLEDKK 60
LENEGKTENK GKTGDEEMLK DKGKPESEGE AKEGKSEREG ESEMEEVERE GTRGRGSG 118

(2) INFORMATION ON SEQ ID NO. 390:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 138 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390:

RFPYLGFLS RPPPSLTLP SLTFLLLPLP HSLAFLYPLT FPHLLFCPCF LSFPRFLTSC 60
LPEYKLLLAF SRLVAVLHF P SFLGLKPFLH FHCRVFPCRD FPSFSCPAGI LDRLLLLFSF120
AERWEQQTRR PGRSWTKN 138

(2) INFORMATION ON SEQ ID NO. 391:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 3218 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:

GCGACCACGA GCTGGTCAT CCATCAGTAC CCTTGCCGGA CTTCCCTTA AAGAAGGAGA 60
 GGATCAGAAA GAGATAAAGA TTGAGCCAGC TCAGGCTGTG GATGAAGTGG AACCTCTACC 120
 TGAAGACTAT TATACAAGAC CAGTAAATT AACAGAGGTA ACAACCCCTTC AGCAGCGTCT 180
 GTTACAGCCT GACTCCAGC CAGTCTGTGC TTCACAGCTC TATCCTCGCC ACAAACATCT 240
 TCTGATCAA CGGTCCCTGC GCTGCCGTAA ATGTGACAT AATTGAGCA AGCCAGAATT 300
 TAACCCAACG TCAATCAAAT TCAAAATCCA GCTGGTCGCT GTCAATTATA TTCCAGAAGT 360
 GAGAACATG TCAATTCCA ACCTTCGCTA CATGAAGGAG AGCCAGGTCC TCCTGACTCT 420
 TACAAATCCA GTTGAGAACC TCACCCATGT GACTCTCTTC GAGTGTGAGG AGGGGGACCC 480
 TGATGATATC AACAGCACTG CTAAGGTGGT GGTGCCCTCC AAAGAGCTCG TTTTAGCTGG 540
 CAAGGATGCA GCAGCAGAGT ACGATGAGTT GGCAGAACCT CAAGACTTTC AGGACGATCC 600
 TGACATTATA GCCTTCAGAA AGGCAACAA AGTGGTATT TTCATCAAAG TTACACCACA 660

 GCGTGAGGAG GGTGAAGTGA CCGTGTGCTT CAAGATGAAG CATGATTTTA AAAACCTGGC 720
 AGCCCCCATT CGCCCCATTG AAGAAAGTGA CCAGGGAAACA GAAGTCATCT GGCTCACCCA 780
 GCATGTGGAA CTTAGCTTG GCCCACTTCT TCCTTAAAAG GTCCCACTGG AGGGCAGATC 840
 CCAAAGGACA GTATCACCGT AAACCTGCCT TAAAATGTGG AAGCTGCTGC TTCATTAGGC 900
 CTTGTTTATA ACGATGTACC CATGCACTAC GGAATTCTAT TGCTAAGAAA GTGGGAGCAT 960
 AGGCAAGGCA TTGGGAACAC AGGGTAGCTG CTGTTGCTCT TGCTCTCACCC CCTGTTGACA1020
 CCAGTAAGTC TGTGTCTCCC TCACCTGAACC CTGCACGTT AGTAACAGCA GCATAATTCC1080
 ATCCTAGGAA AGGGGATGGG TGTTCCTTGG AATGGCATTG TATTTACCAC CTGAGAAACT1140
 CTGTACTGTC TCTTGATCTG ATCTCACTAA GGATCACAAAT GTCACAGATG AAACCTAAAT1200
 GATAACCCAA AGGTAGACCT GCTGTTAATG ATCCAGCATT GGTACAATG TACCAACTGC1260
 TTTCTGCATT CCGTTAAATA TCATCTAACAA GTCTAAAACA TATCCCTTCA TTGCCATAAT1320
 GGCTGCCATT TTGCCATAGA TTTCCATATA ACTGAAAAAC TGAATTGTCA CTTTATCTT1380
 AGTATCATGA TGATTGGAAA AACCTGTGAA GTTGTAAAGG CACTCTCATT TGCCCTCTT1440
 TTCTAAGTGA ATACAGGACA CGTATTAGTT GTTCTTAANN NNNNNNNNNNN NNNNNNNNNNN1500
 NNNNNNNNNNN NNNNNNNNNNN NNNNNNNNNNN NNNNNCAAGGG GGTAGCAGAT1560
 TCCATTCGTT TTCAATATTG CCACAATACC CAGGGATTAA TGCTGCCACA GGGGGCAAT1620
 CTTTATTTGT CTTACTTCT ACCCCTTCCC TGTTCTGCCT CTTTAACTCA GTTAAGTTGT1680
 TCTGTTGGG ACCTGGAAAA GAACCCAAAG AAAACCTGAG TGACAGAGTT CATTCTGGA1740
 ATGCAGAAAA CATTAAAG GCTAGATTT TAGAATATTC TCAACTAGCA TTCTTCCAT1800
 TGATTGAAAG GGGAAATTAA CTATTATAAT CTCTTGAAAT CAAAACGTGGA TATTAAGAAC1860
 TTTCCCCCTT ACTAAGTTA AGACTTTGT CATGTGGTA GTCAAATAAG ACCATTTGA1920
 TTGTAAACCA TAAAATAGTT CAGCAAGTAG CCCACAGTTC TGCCCTAACCA GCAGACTTGC1980
 TGTTTCACT TGGTATCCTG GAGTTGGGTT GCTAACCTTA ATTCTATGA TGTTTCTAA2040
 AATGAAACTT GATAAAGTAG ACCACCAAGCT GCACCGTGT TTCTGTAAAA GTATTGTTAG2100
 TAAGTGGCCA AGAGACTTGA GGAAAATACA GATTTTTGT TTACCTGGT CTTGTTTAA2160
 GTCTTAAAAA ATTAAGAGATA ACATTATAAT GTAGAATACA GATGGGACAT AGTCTTGTA2220
 AGCTTCCCTT GAAAATGTT TAAATATTAA GGAAGCTTT AAAAGACACT AAATTGTACT2280
 CTAAAAGACA CTAAATTGTA CTAATTGTAC AAAGGTCAAG CCAATTCTTAT GAAACAGTCC2340
 TACAGAGTAA TATATGTGAT GCAGTGTAAAG AAGGAAAATA CTCATCTCTA ACATTATGGT2400
 AATAACATTG AGCCTCTTAG GAGTTGGAGC AGGGGGATGG GTAATTACAG ATTTGCAGAC2460
 TATAGAAAGA GTTTCATTTC TTTGTGACCC CACAGAGTCT CAAATTCTTA TTTCACTACC2520
 TGCTAGAGCC TACTGTGAAA TCACTGCTCC ATATTGCCA GTGGAGGAAA TGGGCATAGA2580
 GTAGAGAATA GCTTCATATG GTTACACGT TTGCATAGAC TACACACATG TCATGGTTT2640
 ATGGCAGGTA GCTGGTATTG ATCCCCAAAG TAATAATGTT GAAGTATGGG TCTCATCATT2700
 CCCATACACA GAAACACAAA ACACTTGAT CATAAAACTT TTCTTCAGA AGCCAAACTA2780
 ACTTGCAGAA TAATAGAGCC ACTGGTTAA TGTTCTCA AGATAGGTT TAGTGTAAAGC2820
 TAGTATTCTG TGTGTTCGTA GAAATGATTG AATACCTGCA GCTGGTGAAT TAGGAATTGT2880
 ATTTGTTGCC TTTTTTATAT TAGATGAGGT GCAAAAATT TAATGCTAGT CAGTATGCAC2940
 CACCACAGGA AAGTTAGATC CCATTAGCAC TTGAAACTAC AGCTTTGGAA ACTTAGGCTA3000
 AGTTAATTG GATTTGTTAC TTGATTCACT TACTGACCTT TTCTTTGTT TGAAGTGCTT3060
 ATCAGCATAA TGAGCTAAGT GTCATGCATA TTTGTGAAGA AACACCCCTT TTGGTCCCTT3120
 TTGGGACAGA GAGGTACTCC TTGATCTTAA TGAATGACAG GTTACTGTTT TGCCTTATTG3180
 CTTAACTTAA TGTAGTGGAAA TAAAGCAGAC AAAGCTTG

(2) INFORMATION ON SEQ ID NO. 392:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 750 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 392:

GTGAGGGACA GATGGACAGA ATGCAGAGGT ACATAGATGA GCTGAGGCTG ATCCAGCTCC 60
 CCTGAAATTC AGAGTGTAA CTTGTAGAC CCTGCACAAT CTCTTGGTGC TATCTAGCCA120
 TTACCCCCAT TTTTTTTTA AAGGCCATCT GAAATTCCAT TTGTATGGT GGGAAAGCATT180
 TTGGATATGA TGCAGGAAAT CTCTTCCTGG AGTCAAAAGT TCCCAAGAGG TCCTGTATTT240
 TTAAGAAATG GAATTATATT AAATAATATT TAAGCTTGTG CCCATGTTGG CGGGGCAACT300
 TTTTCAATG GTGCTTATTAA GAAGAAGTTT TTTCATCTTG TCATTTTAAG AAAATAAAAC360
 TGGAAATTGA ATATGGGTGG CATGATTGTA CCCTTTAGT TCTCTTATTT TTCTACTCCT420
 CTGTCCCTCT ATAACATATGC CATACTATTAA GATGCTGGTC CACTGAATGC TGAGATGATC480
 TGTTTTTGG GGTTTTTTT TTTAAGAAA TATTTTCACT GGTTTCTGT GACTCTAA540
 ACACTTCATC GAAACTAGGA AGACTGAATT ATGAGGGAAA CTATTGGGA TTAGTGGCCA600
 GAAACGATGA AATCTTATAG ATCTTTGAC AGTTTCTCTG TTTAGGGGGAA GCCTAGGACT660
 GATATCCAAG TTTCTTCCAT ATCCAAGCTT CATTGGGGGA CCCCCATTG GCTTTAACAG720
 GTGACCCGGC CCTCTTACCG GGGCTTCCAG 750

(2) INFORMATION ON SEQ ID NO. 393:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 546 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 393:

CACGAGGAGG CCGGGAGTGG AACCCCTCT TTTGAGAAGG TTGCCTGACT CAGAGACACA 60
GAAACGGGTC CAGGGATGGG GAGAGATGTG GAGTGAGGGA AGGTTGCAT TTGAGAAAGG120
AAGTTCGAGA ACACACTGGG ACATTGTAAC ACATTGAAAC CATCTCTGA TAGAAAGGTG180
TTGGCCTCCT ATAATGGGA GGTCAAGGGCC AGGTCCCTCG GCATAGGGAG AGGGTCCGGA240
GAATGCTGCA GACCCCTGCC CACTGCCAC GGTCTCCGCT CCCTGCACCT GCCTCTGATG300
GTGCAGCTCT GATTCCGTGT CTCTCCTCAT TGCAGATTTA TGAAGGTGCC TACCATGTTTC360
TCCACAAGGA GCTTCCTGAA GTCACCAACT CCGTCTTCCA TGAAATAAAC ATGTGGGTCT420
CTCAAAGGAC AGCCACGGCA GGAACTCGCGT CCCCCACCTG AATGCATTGG CCGGTGCCG480
GCTCATGGTC TGGGGGATGC AGGCAGGGGA AGGGCAGAGA TGGCTTCTCA GATATGGCTT540

GCAAAA

546

(2) INFORMATION ON SEQ ID NO. 394:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2453 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 394:

CCTGACGGGA CCAAGGCGGC GGGAGTCTGC GGTCGTTCCC TCGGCTGTGG ACCGGGCGGC 60
 ACGACGCGGT GCAGGGTAAC ATGGCGGATG CGGAAGTAAT TATTTGCCA AAGAAACATA 120
 AGAAGAAAAA GGAGCGGAAG TCATTGCCAG AAGAAGATGT AGCCGAAATA CAACACGCTG 180
 AAGAATTTTT TATCAAACCT GAATCCAAAG TTGCTAAGTT GGACACGTCT CAGTGGCCC 240
 TTTTGCTAAA GAATTTGAT AAGCTGAATG TAAGGACAAC ACACATATAAC CCTCTTGAT 300
 GTGGTTCAAA TCCTCTGAAG AGAGAGATTG GGGACTATAT CAGGACAGGT TTCATTAATC 360
 TTGACAAGCC CTCTAACCCC TCTTCCCATG AGGTGGTAGC CTGGATTCCA CGGATACTTC 420
 GGGTGGAGAA GACAGGGCAC AGTGGTACTC TGGATCCAA GGTGACTGGT TGTTTAATCG 480
 TGTGCATAGA ACGAGCCACT CGCTTGGTGA AGTCACAAACA GAGTGCAGGC AAAGAGTATG 540
 TGGGGATTGT CCGGCTGCAC AATGCTATTG AAGGGGGGAC CCAGCTTTCT AGGGCCCTAG 600
 AAACCTCTGAC AGGTGCCTTA TTCCAGCGAC CCCCACTTAT TGCTGCAGTA AAGAGGCAGC 660
 TCCGAGTGAG GACCATCTAC GAGAGCAAAA TGATTGAATA CGATCCTGAA AGAAGATTAG 720
 GAATCTTTG GGTGAGTTGT GAGGCTGGCA CCTACATTG GACATTATGT GTGCACAGTG 780
 ATCAGTCACG CGCACGAGGT ACGTCAGATG CAGGAGCTC GGAGGGTTCG TTCTGGAGTC 840
 ATGAGTAAA AGGACCACAT GGTGACAATG CATGATGTGC TTGATGCTCA GTGGCTGTAT 900
 GATAACCACA AGGATGAGAG TTACCTGCGG CGAGTTGTT ACCCTTGGA AAAGCTGTTG 960
 ACATCTCATA AACGGCTGGT TATGAAAGAC AGTGCAGTAA ATGCCATCTG CTATGGGCC1020
 AAGATTATGC TTCCAGGTGT TCTTCGATAT GAGGACGGCA TTGAGGTCAA TCAGGAGATT1080
 GTGGTTATCA CCACCAAAGG AGAAGCAATC TGCACTGGCTA TTGCATTAAT GACCACAGCG1140
 GTCATCTCTA CCTGCGACCA TGGTATAGTA GCCAAGATCA AGAGAGTGT CATGGAGAGA1200
 GACACTTACC CTCGGAAGTG GGGTTTAGGT CCAAAGGCAA GTCAAGAAGAA GCTGATGATC1260
 AAGCAGGGCC TTCTGGACAA GCATGGGAAG CCCACAGACA GCACACCTGC CACCTGGAAG1320
 CAGGAGTATG TTGACTACAG TGAGTCTGCC AAAAAAGAGG TGGTTGCTGA AGTGGTAAA1380
 GCCCCGCAGG TAGTTGCCA AGCAGCAAAA ACTGCGAAGG GAAGCGAGGA GAGTGAGAGT1440
 GAAAGTGCAG AGACTCCTCC AGCAGCTCCT CAGTTGATCA AGAAGGAAAA GAAGAAGAGT1500
 AAGAAGGACA AGAAGGCCAA AGCTGGTCTG GAGAGCGGGG CCGAGCCTGG AGATGGGAC1560
 AGTGATACCA CCAAGAAGAA GAAGAAGAAG AAGAAAGCAA AAGAGGTAGA ATTGGTTCT1620
 GAGTAGTGAA GGCCACTTGA AGCTGGAGGA GAAACTAAAG CCTTATTGAG AAAACATGTT1680
 ATAGATCCTT TTGTTGCTGA GAGAGTGGAA CATAGGTCCT AGACAGGGTG AAGAGTTCTG1740
 GCACATTTA GCTGCTACTT TGAGACCTCG GTGATGTTAC CTGGTGTGGT CATCCCATCT1800
 TGTCTGTGTT TAAGGATATG GGTGGTGGAA GATGAAAGAG GCAGAGTTA TCCCAATGAC1860
 TTCTCTGTGTT GAGTTGGGAA GCCTCACCTT CAGACCCAGT AACTGTCCGC AGCTGTCTGC1920
 TAGTGGTTGT CTTAACATCG TAGTCCTAGT TTGCATTTTT TAAATCCCT CTGTTAAAA1980
 GGTTTGTAAA ACAAAAAACAA AAAACTAAGT CTGCTCAGTG AAATGCTGTA GAACCCCTAAA2040
 TAAGTGGTAG AAGAGTGTCA CTGAATTG TCTCTGAATT CAGTATAACT GAGTTTGTC2100
 CATGCTGGTG TCTGGTTAT AGGCCTGATG GGCCTGGTAG TTTTCCATCT TGTTCTGGCC2160
 TAGAGGTCAAG TCCCTGCAC TTCTCAAAG CTTGTGTACA GTGCTCACCT AAATCCATCT2220
 GACTACTTGT TCCCTGTGCC TCTGTGTTA GGCCTCGTTT ACTTTAAAAA AATGAAATTG2280
 TTCATTGCTG GGAGAAGAAT GTTGTAAATT TTACTTATTA AAGTCAACTT GTTAAGTTT2340
 TTATGTATTG CTGTTGGGTT TTCTTGTTGA TCTCATGCTA GCAGAGCAAA AATTGTAAGA2400
 TATTTGATT AAAAATCTAG GGACCTTAT GTCCTATTG AAAAAAAA AAA 2453

(2) INFORMATION ON SEQ ID NO. 395:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2706 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 395:

GGGAGGAAGG AGACTACACC TGCTTGCTG AAAATCAGGT CGGGAAGGAC GAGATGAGAG 60
 TCAGAGTCAA GGTGGTGACA GCGCCGCCA CCATCCGGAA CAAGACTTAC TTGGCGGTTC 120
 AGGTGCCCTA TGGAGACGTG GTCACTGTAG CCTGTGAGGC CAAAGGAGAA CCCATGCCCA 180
 AGGTGACTTG GTTGTCCCCA ACCAACAAAGG TGATCCCCAC CTCCTCTGAG AAGTATCAGA 240
 TATACCAAGA TGGCACTCTC CTTATTCAAGA AAGCCCAGCG TTCTGACAGC GGCAACTACA 300
 CCTGCTTGGT CAGGAACACAGC GCGGGAGAGG ATAGGAAGAC GGTGTGGATT CACGTCAACG 360
 TCCAGGCCACC CAAGATCAAC GGTAACCCCA ACCCCATCAC CACCGTGCAG GAGATAGCAG 420
 CCGGGGGCAG TCGGAAACTG ATTGAGTGCA AAGCTGAAGG CATCCCCACC CCGAGGGTGT 480
 TATGGGCTTT TCCCGAGGGT GTGGTTCTGC CAGCTCCATA CTATGGAAAC CGGATCACTG 540
 TCCATGGCAA CGGTTCCCTG GACATCAGGA GTTTGAGGAA GAGCGACTCC GTCCAGCTGG 600
 TATGCATGGC ACGCAACCGAG GGAGGGGAGG CCAGGTTGAT CCTGCAGCTC ACTGTCCCTGG 660
 AGCCCCATGGA GAAACCCATC TTCCACGACC CGATCAGCGA GAAGATCACG GCCATGGCGG 720
 GGCCACAACA TTCAGCCTCA ACTGCTCTGC CGCGGGGACC CGCACACCCA GCCTGGTGTG 780
 GGTCCCTCCC AATGGCACCG ATCTGCAGAG TGGACAGCAG CTGCAGCGCT TCTACACAA 840
 GGCTGACGGC ATGCTACACA TTAGCGGTCT CTCCTCGGTG GACGCTGGGG CCTACCGCTG 900
 CGTGGCCCGC AATGCCGCTG GCCACACGGA GAGGCTGGTC TCCCTGAAGG TGGGACTGAA 960
 GCCAGAAGCA AACAAAGCAGT ATCATAACCT GGTCAAGCCTC ATCAATGGTG AGACCCTGAA1020
 GCTCCCTCTGC ACCCCTCCCCG GGGCTGGGCA GGGACGTTTC TCCCTGGACGC TCCCCAATGG1080
 CATGCATCTG GAGGGCCCCC AAACCCCTGGG ACGCGTTCT CTTCTGGACA ATGGCACCCCT1140
 CACGGTTCTGT GAGGGCCTCGG TGTTTGACAG GGGTACCTAT GTATGCAGGA TGGAGACGGA1200
 GTACGGCCCT TCGGTACCCA GCATCCCCGT GATTGTGATC GCCTATCCTC CCCGGATCAC1260
 CAGCGAGCCC ACCCCGGTCA TCTACACCCG GCCCAGGAAC ACCGTGAAAC TGAACCTGCAT1320
 GGCTATGGGG ATTCCCAAAG CTGACATCAC GTGGGAGTTA CCGGATAAGT CGCCTCTGAA1380
 GGCAGGGTT CAGGCTCGTC TGTATGGAAA CAGATTCTT CACCCCCCAGG GATCACTGAC1440

CATCCAGCAT GCCACACAGA GAGATGCCGG CTTCTACAAG TGCATGGCAA AAAACATTCT1500
 CGGCAGTGAC TCCAAAACAA CTTACATCCA CGTCTCTGA AATGTGGATT CCAGAATGAT1560
 TGCTTAGGAA CTGACAACAA AGCGGGTTT TTAAGGGAAAG CCAGGTTGGG GAATAGGAGC1620
 TCTTAAATAA TGTGTCACAG TGCATGGTGG CCTCTGGTGG GTTCAAGTT GAGGTTGATC1680
 TTGATCTACA ATTGTTGGGA AAAGGAAGCA ATGCAGACAC GAGAAGGAGG GCTCAGCCTT1740
 GCTGAGACAC TTTCTTTGT GTTACATCA TGCCAGGGGC TTCATTCAAGG GTGTCTGTGC1800
 TCTGACTGCA ATTTTCTT TTTGCAAAT GCCACTCGAC TGCCATTCAAGCAGTCCATA1860
 GGATATCTGA GGAACATTCA TCAAAAATAA GCCATAGACA TGAAACAACAC CTCACTACCC1920
 CATTGAAGAC GCATCACCTA GTTAACCTGC TGCACTTTT ACATGATAGA CTTTGTCCA1980
 GATTGACAAG TCATCTTCAG GTTATTCCCTC TGCACTTCAG AAACCTCCAGC TTGCCAATAA2040
 GGATTTAGAA CCAGAGTGAC TGATATATAT ATATATTAA ATTCAAGAGTT ACATACATAC2100
 AGCTACCATT TTATATGAAA AAAGAAAAAC ATTTCTCCT GGAACACTACT TTTTATATAA2160
 TGTTTATAT ATATTTTTT TCCTTCAAA TCAGACGATG AGACTAGAAG GAGAAATACT2220
 TTCTGTCTTA TTAAAATTAA TAAATTATTG GTCTTACAA GACTTGGATA CATTACAGCA2280
 GACATGGAAA TATAATTAA AAAAATTCT CTCCAACCTC CTTCAAATTG AGTCACCACT2340
 GTTATATTAC CTTCTCCAGG AACCTCCAG TGGGGAAGGC TGCGATATTG GATTTCCCTG2400
 TATGCAAAGT TTTTGTGAA AGCTGTGCTC AGAGGAGGTG AGAGGAGAGG AAGGAGAAAA2460
 CTGCATCATA ACTTTACAGA ATTGAATCTA GAGTCTTCCC CGAAAAGCCC AGAAACTTCT2520
 CTGCAGTATC TGGCTGTCC ATCTGGTCTA AGGTGGCTGC TTCTCCCCA GCCATGAGTC2580
 AGTTTGTGCC CATGAATAAT ACACGACCTG TTATTTCCAT GACTGCTTTA CTGTATTTT2640
 AAGGTCAATA TACTGTACAT TTGATAATAA AATAATATTC TCCCAAAAAA AAAAAAAA2700
 AAAAAG

2706

(2) INFORMATION ON SEQ ID NO. 396:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 2242 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 396:

CAGGCCGGTT CGGGCGAAGT TAAACCCCTCG GAGCTGGCCT CGGACTGCTG GGGCGTTACC 60
 CCTTCGGCCA CCCCCGCTGA CCATGGCACT GTTTCATGAC GAGGTGGAAA TCGAGGACTT 120
 CCAATATGAC GAGGACTCGG AGACGTATT CTATCCCTGC CCATGTGGAG ATAACCTCTC 180
 CATCACCAAG GAACATTTGG AGAATGGGGA AGACGTGGCA ACGTGTCTA GCTGCTCTCT 240
 CATTATAAAA GTGATTATG ACAAAAGATCA GTTTGTGTGT GGAGAAACAG TCCCAGCCCC 300
 TTCAGCCAAC AAAGAATTAG TTAAATGCTG AAGAACCTT CAGGAATCCA AATCCTGAAC 360
 ATTTGGAATG AGCCCAGATA GAAATATCGA ATGCAAAGCT ACTGGCTTCA CAGAGACAAAC 420
 CATTATGAT TTGCTGTTCT GTAAAGAGTGT GGATTCTTC TATCAACTGC TGATATCATC 480
 TTCAGGAAGC AAGTCCATAA CATGACATAT CTGGATTTG TGCTTAGAAC CTAAATTGG 540
 AAGCATTCTT AATTATGCAT CTAAATTAA AAGAAGATAA TTTCAAAACA GTGCTTCTT 600

 TCCCTGGTT TCATCATTTCATATCTTAA ACCAAATTAC TTCCGGTATCT GACAACAGCA 660
 TCATCTACCT CAGTCATTAG GATTCTTAA TAAAAAAGAG ATTGTATTT TGACTTGGTT 720
 ATTAAGATTA TTAAAATTAG CCCTTCCTT GAAATATGAC ATCAGCTTGT CTGTTCTAAA 780
 TTTAAAATTA GTGCTTCAT CAGTACCACA CTTCCAGTTT CTATACCAAG CCAGTCTCCT 840
 CAGTTTCCC ATTAGAATGG ACATGTTCTG TTCAGCGTGT CATTCTGTAT ATGCTTCATG 900
 CAGAGAGTTT GGTCACTAGTA TTAAAGAGAA AATACAGTGA GGTCACTAGT TCTCCAGAGC 960
 TAAAAGTTAG TGAACAAGAA AGAAAGTCCA AAATGAAGTG ATGAAAGAAAT GAGGACTTT 1020
 CTTATATTCT GCATATTCTT TGGAAGTCAG GACAAGATGA AAAGAAAAAC ATCAAAAGA 1080
 AGTGAATTG GTGACAGAAAT GAGAGGGAGCA AAGCATACCA GTGTAGTAAG TGGATGTT 1140
 GAATGACTTT GCCAGGTCAAG AGCAAGTAAT ATTTCTGTAT CTGAGTTTT GTTGTGTT 1200
 TGATAAGGCT AATGAAATTG CATTCCAGGT AGGGGTTAAC GTCAAATTTC CATGGCTGGT 1260
 AGCTGTGCTT TTGGCATATC ACAGTGTGT GTCACTACTA CAAGGTAAAG CATCTACAGC 1320
 GGAGAATGAG CTTGAAAATG AGAGACCTAT TGTGATAAAA TATGCCATG AGAGCATATT 1380
 TAATAAGCCT CTATAACATG CAGCCAAACC AGACATTCAAC TCCCTGCAGAG AAATGTTGCC 1440
 CTGGAGAAAA AGAGATATAT AAAGATAGGC TATCACCCTT CTTTGCTGC AGTACTAAGC 1500
 ATAGCAAGAA ATTAGAATCA TTACATTGG AAATTGAAA ATTCCCTTA TATACACAAC 1560
 TTTACTGTGT ATAAATAAAA AATATTATT AATGCACTGA TGTCCGTCAG GTTGTGTTAG 1620
 GAATGGCTTC TGCAATTAGA AAAATAGCTT GCTAGAATGT AAATGTTCTG CTACTGGTAA 1680
 ATGTACTGCA CACATTCTT GGACGTTAAA ACAAGTGAGT AGCCTTTTT ACCTGCCAGC 1740
 AGCATGGCTG TGTGCAGCCA CTAGGCTGAG ACAATAAAATT ACCAAAAAATT ATAATGTAC 1800
 GAGCTGAAAA TGCTCAGTAC ATTATGTGGC ATATTCTGGA TGTGATGAGA AATCTCATTG 1860
 CCATTGGGA CACTGACATC CCAGAAGTAA TCCACAACTG CTTTGCAAAA GCAAAGTGAC 1920
 TGCTCAGATG AACAGAGCAG AGTACTCACT CACTATGGTG GCATCAGCTG CAAAGCGAAA 1980
 TGAACGTGCC CATGATCATG TTGATGGTT TCTAGATACT GCCAACATGT TAGCTCTTC 2040
 TGATGCTGAT GAGTTCAAA CACGAACAGA CANCCTGAT GTGGGTTTGC TAAGAACATA 2100
 GAAGAACAGG AAGAAAAGTT GCCAGGGTTT AAAAATCCCA GGGAAAAAAAG AAGCATAAAA 2160
 AGCATTAGCA GTCAGTGACT GATGATAATG CTTGCAATAA TGGGGAATGG TTTTGTGTTTC 2220
 TAAAACCCAA AATTATTTTC TT 2242

2025 RELEASE UNDER E.O. 14176

(2) INFORMATION ON SEQ ID NO. 397:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1239 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 397:

TAGTCATCCT ACAAACATGT TTCTGTTACT TCCTAATATT AAAATAGCCA TTTTGGATTC 60
 CATATTTAAA GTGCTCATTT GAGTGAAATT CAAATTAGAA AGAAAAGATAT TAAAATGCGC 120
 CTAACAAAAA CCTCTCTTTC AGAATCCCTA TTCCTTGAAT CTTGGGTTG AACTGCTTAT 180
 TAAAGGCAGG CCTAAACTAA TTTGTGAGAA ATGAAGAAGT TTTAGTATAT AATTCTTTA 240
 AAAAATATCA ATTACGGCTG GGTGCGGTGG CTCAGGCCTG TAATGCCAGC ACTTTGGGAG 300

GCCAAGGCGG GTGATCACCT GAGGTAGGA GTTCAAGACC AGCCTGGCCA ACATGGCAA 360
 ACCCTGTCTC TACTAAAAAG TAAAAAAAAT TAGCCGGCA TGGTGGCTTG TGCTTGTAGT 420
 CCCACTTCAG TCTAAGTAGC TGGGACTACA GGCACGTGCC ACNAGGCCA GCTAATGTGG 480
 GTGTTTGTT AGAGATGAGG TAGGCCATA TTGCCCAGGC TCGTCTTGAA CACCGGGGCT 540
 CAAGGAATCT GCCCATCTTC GCCTCCAAA GTTCTGAGAT AGCAGGTGTG AGTCANTCAT 600
 GCCCAGCCTC CTGAAGTTT ACTAACATT GGGATAACTG AGGAAGAGA AGTGACAATT 660
 CCACTCAGTC TATTAGAGGT CTGGATATAA GGTAGNCCAC ACAATAACTC TAACNTTGAC 720
 TTCTAACCAT TCTATCTTAT TGNATTGGA GGCTGTCTTC TGNCAGATT TTTTGTGGCT 780
 TGAGATGATA TTTTNCGAAC CCTTCTTTCA CTACCTTCT TACCCCTTAAT GTGNCCAAGC 840
 TTGAAACAGG ATTTGATTTC CTGAGCNTAC TTGTTCNGCC TTCTGTGCGT CANCCAAGTA 900
 ATCTGGTTCA TCTTTCNGTN CTCATTGATG TTATTTCAA GTGAAACAAG ACATTTGGG 960
 GGNTCAAGTC TCNTTTGGGN NTGTTTGTT TTTATGTATA TAAAAATGGA TTTTGNTGTT 1020
 CCCTTCCNA TGTNAAGTAN CCAACTTATA TGGAAACTCA CAATCATAAT GTAAAGAAGA 1080
 AATGAAANGC CTGGTGTATT GTACTTCAAG ATGCCTCCCT GNATGTATAG AATCNTCCCT 1140
 GTAAAATAAA TAATTGNCAT TGTATATCAG TCTTCCCATC AATATTAATT ATTAAATATT 1200
 TTAGAATTTC TAAATACCAA CTATAAAAAA AAAAAAAA 1239

(2) INFORMATION ON SEQ ID NO. 398:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1663 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 398:

GAACCTGCTC TCCTGCTTGC TGGTCCCTTG ACCGAGAGAC CGTTGCCTCC CCCACAGCCG 60
 TTTGACTGAA GGCTGCTCTG GAGACCTAGA GTAAAACGGC TGATGGAAGT TGTGGGACCC 120
 ACTTCCATT CCTTCAGTCA TTAGAGGTGG AAGGGAGGGG TCTCCAAGTT TGGAGATTGA 180
 GCAGATGAGG CTTGGGATGC CCCCTGCTTT GACTTCAGCC ATGGATGAGG AGTGGGATGG 240
 CAGCAAGGTG GCTCTGTGG CAGTGGAGTT GTTGCAGAA ACAGTGGCCA GTTGTATCGC 300
 CTATAAGACA GGGTAAGGTC TGAAGAGCTG AGCCTGTAAT TCTGCTGTAA TAATGATAGT 360
 GCTCAAGAACAG TGCCTTGAGT TGGTGTACAG TGCCATGGCC AGCAAGAAC 420
 GGTTTTATTA CAAAATGTAAT GTGGTCACTT GGCGATTTG TAGTACATGC ATGAGTTACC 480
 TTTTTCTCT ATGTCAGAT TAAAACAAGA TGGCAAAGAG ATCGTTAGAG 540
 TGCACAACAA AATCACTATC CCATTAGACA CATCATCAAA AGCTTATTTT TATTCTTGCA 600
 CTGGAAGAACAT CGTAAGTCAA CTGTTCTTG ACCATGGCAG TGTTCTGGCT CCAAATGGTA 660
 GTGATTCCAA ATAATGGTTC TGTTAACACT TTGGCAGAAA ATGCCAGCTC AGATATTTG 720
 AGATACTAAG GATTATCTTT GGACATGTAC TGCAGCTCT TGCTCTGTT TTGGATTACT 780
 GGAATACCCA TGGGCCCTCT CAAGAGTGT GGACTTCTAG GACATTAAGA TGATTGTCAG 840
 TACATTAAC TTTCAATCC CATTATGCAA TCTTGTGTT AAATGTAAAC TTCTAAAAT 900
 ATGGTTAATA ACATTCAACC TGTTTATTAC AACTTAAAG GAACTTCAGT GAATTTGTT 960

TTATTTTTA ACAAGATTG TGAACTGAAT ATCATGAACC ATGTTTGAT ACCCCTTTT1020
 CACGTTGTGC CAACGGAATA GGGTGTGAA TATTTCTTCA TATGTTAAGG AGATGCTTCA1080
 AAATGTCAAT TGCTTAAAC TTAAATTAC TCTCAAGAGA CCAAGGTACA TTTACCTCAT1140
 TGTGTATATA ATGTTAATA TTTGTCAGAG CATTCTCCAG GTTGCAGTT TTATTTCTAT1200
 AAAGTATGGG TATTATGTTG CTCAGTTACT CAAATGGTAC TGTATTGTT ATATTTGTAC1260
 CCCAAATAAC ATCGTCTGTA CTTTCTGTT TCTGTATTGT ATTTGTGCAG GATTCTTAG1320
 GCTTTATCAG TGTAATCTCT GCCTTTAAG ATATGTACAG AAAATGTCCA TATAAATTC1380
 CATTGAAGTC GAATGATACT GAGAACCTG TAAAGAGGAG AAAAAAACAT AAGCTGTGTT1440
 TCCCCATAAG TTTTTTAAAG TTGTATATTG TATTTGTAGT AATATTCAA AAGAATGTAA1500
 ATAGGAAATA GAAGAGTGT GCTTATGTTA AGTCCTAACCA CTACAGTAGA AGAATGGAAG1560
 CAGTGCAAAT AAATTACATT TTTCCAAAAA AAAAAAAA AAAAAAAA AAAAAAGTGT1620
 ATACGTTGGA ATGAAAAAAA AAAAAAAA AAAAAAAA AAA 1663

(2) INFORMATION ON SEQ ID NO. 399:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2889 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 399:

GATCAGGCCT GTGGTCCAGC TCACTGCCAT TGAGATTCTA GCTTGGGGCT TAAGAAATAT 60
 GAAAAACTTC CAGATGGCTT CTATCACATC CCCCAGTCTT GTTGTGGAGT GTGGAGGAGA 120
 AAGGGTGGAA TCGGTGGTGA TCAAAAACCT TAAGAAGACA CCCAACTTTC CAAGTTCTGT 180
 TCTCTTCATG AAAGTGTCT TGCCCAAGGA GGAATTGTAC ATGCCCCAC TGGTGATCAA 240
 GGTCATCGAC CACAGGCAGT TTGGCGGAA GCCTGTCGTC GGCCAGTGCA CCATCGAGCG 300
 CCTGGACCAGC TTTCGCTGTG ACCCTTATGC AGGGAAAGAG GACATCGTCC CACAGCTCAA 360
 AGCCTCCCTG CTGCTGCC CACCATGCCG GGACATCGTT ATCGAAATGG AAGACACCAA 420
 ACCATTACTG GCTTCTAACG TGACAGAAAA GGAGGAAGAA ATCGTGGACT GGTGGAGTAA 480
 ATTTGATGCT TCCTCAGGGG AACATGAAAA ATGCGGACAG TATATTAGA AAGGCTATTG 540
 CAAGCTCAAG ATATATAATT GTGAACTAGA AAATGTAGCA GAATTGAGG GCCTGACAGA 600
 CTTCTCAGAT ACGTTCAAGT TGTACCGAGG CAAGTCGGAT GAAAATGAAG ATCCTTCTGT 660
 GGTTGGAGAG TTTAAGGGCT CCTTTCGGAT CTACCCCTCG CCGGATGACC CCAGCGTGCC 720
 AGCCCCCTCCC AGACAGTTTC GGGAAATTACC TGACAGCGTC CCACAGGAAT GCACGGTTAG 780
 GATTTACATT GTTCGAGGCT TAGAGCTCCA GCCCCAGGAC AACAAATGGCC TGTGTGACCC 840
 TTACATAAAA ATAACACTGG GCAAAAAAGT CATTGAAGAC CGAGATCACT ACATTCCCAA 900
 CACTCTCAAC CCAGTCTTGTG GCAGGATGTA CGAACTGAGC TGCTACTTAC CTCAAGAAAA 960
 AGACCTGAAA ATTTCTGTCT ATGATTATGA CACCTTTACC CGGGATGAAA AAGTAGGAGA 1020
 AACAAATTATT GATCTGGAAA ACCGATTCCCT TTCCCGCTTT GGGTCCCCT GCAGGCATACC 1080
 AGAGGAGTAC TGTGTTTCTG GAGTCAATAC CTGGCGAGAT CAACTGAGAC CAACACAGCT 1140
 GCTTCAAAAT GTCGCCAGAT TCAAAGGCTT CCCACAACCC ATCCTTCCG AAGATGGGAG 1200

TAGAATCAGA TATGGAGGAC GAGACTACAG CTTGGATGAA TTTGAAGCCA ACAAAATCCT1260
 GCACCAGCAC CTCGGGGCCC CTGAAGAGCG GCTTGCTCTT CACATCCTCA GGACTCAGGG1320
 GCTGGTCCCT GAGCACGTGG AAACAAGGAC TTTGCACAGC ACCTTCCAGC CCAACATTTC1380
 CCAGGGAAAA CTTCAGATGT GGGTGGATGT TTTCCCAAG AGTTTGGGGC CACCAGGCC1440
 TCCTTCAAC ATCACACCCC GGAAAGCCA GAAATACTAC CTGCGTGTGA TCATCTGGAA1500
 CACCAAGGAC GTTATCTGG ACAGAGAAAAG CATCACAGGA GAGGAATGA GTGACATCTA1560
 CGTCAAAGGC TGGATTCTG GCAATGAAGA AAACAAACAG AAAACAGATG TCCATTACAG1620
 ATCTTGGAT GGTGAAGGGA ATTTAACTG GCGATTTGTT TTCCCGTTG ACTACCTTC1680
 AGCGAACAA CTCTGTATCG TTGCGAAAAA AGAGCATTTC TGGAGTATTG ACCAACCGGA1740
 ATTTCGAATC CCACCCAGGC TGATCATTCA GATATGGGAC AATGACAAGT TTTCTCTGGA1800
 TGACTACTTG GGTTTCTAG AACTGACTT GCGTCACACG ATCATTCCTG CAAAATCACC1860
 AGAGAAATGC AGGTTGGACA TGATTCGGGA CCTCAAAGCC ATGAACCCCC TTAAAGCCAA1920
 GACAGCCTCC CTCTTGAGC AGAAGTCCAT GAAAGGATGG TGGCCATGCT ACGCAGAGAA1980
 AGATGGCGCC CGCGTAATGG CTGGAAAGT GGAGATGACA TTGGAATCC TCAACGAGAA2040
 GGAGGCCGAC GAGAGGCCAG CGGGGAAGGG GCGGGACGAA CCCAACATGA ACCCCAAAGCT2100
 GGACTTACCA AATCGACCAG AAACCTCCTT CCTCTGGTTC ACCAACCCAT GCAAGACCAT2160
 GAAGTTCATC GTGTGGCGCC GCTTTAAGTG GGTCAATCATC GGCTTGCTGT TCCTGCTTAT2220
 CCTGCTGCTC TTCGTGGCCG TGCTCCTCTA CTCTTGCCG AACTATTTGT CAATGAAGAT2280
 TGTAAGCCA AATGTGTAAC AAAGGCAAAG GCTTCATTTC AAGAGTCATC CAGCAATGAG2340
 AGAATCCTGC CTCTGTAGAC CAACATCCAG TGTGATTTG TGTCTGAGAC CACACCCAG2400
 TAGCAGGTTA CGCCATGTCA CCGAGCCCCA TTGATTCCA GAGGGTCTTA GTCTGGAAA2460
 GTCAGGCCAA CAAGCAACGT TTGCATCATG TTATCTCTTA AGTATTTAAA GTTTTATTT2520
 CTAAAGTTA AATCATGTT TTCAAAATAT TTTTCAAGGT GGCTGGTTCC ATTTAAAAAT2580
 CATCTTTTA TATGTGTCTT CGGTTCTAGA CTTCAGCTTT TGGAAATTGC TAAATAGAAT2640
 TCAAAATCT CTGCATCCTG AGGTGATATA CTTCATATTT GTAATCAACT GAAAGAGCTG2700
 TGCATTATAA AATCAGTTAG AATAGTTAGA ACAATTCTTA TTTATGCCA CAACCATTGC2760
 TATATTTGT ATGGATGTCA TAAAAGTCTA TTTAACCTCT GTAATGAAAC TAAATAAAA2820
 TGTTTCACCT TTAAAACATA GGGGGGGTGG TCGGGGGGTC GGGAGGGGG GGGGTGGTGT2880
 GGGGTGTGG 2889

(2) INFORMATION ON SEQ ID NO. 400:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 1774 base pairs
 - (B) TYPE: Nucleic acid
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
 - (A) ORGANISM: HUMAN
 - (C) ORGAN:
- (vii) OTHER ORIGIN:
 - (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 400:

TGAAGGAAGT AACAAAAGTG GGAAACCCCT GATAAACCCC CTCAGGATCC TCATGGAGAA 60
 CTTACCTATC CAGGAGAAAT AGCAAAGGG AAAGAACTGG CCCCCCCCCTG ATTCCGATGA 120
 CCCTCCCCCC GGGTCCCCCTC CCCACAACAT GTGGGAATTC CCAGAAGATA AATTCAAGTT 180
 GCAATTCAG TGGGGACATA GCCCAAACCC ATATCACTGG TGATGCCAC TTCTTCAGTA 240
 TTAGGGATTG TCAGTCAGAA GAGACCCCT GTGTGGCCTG AGTCCCCTCA GGAGGAAGGT 300
 GGACAACAGA GAAATGAGAG TTTTGATATT TTCTGAAAGA GGAACATGTG TTAGAGATGA 360
 AGAACCTTCC AAGGCTCATG CAGTTGCTTA GAATAATCAT TACTGTTATA TGAGAAACAT 420
 TTTAGTAATT TAATAAAAAGG ATAATGTTTA TTTAAAAAAC CTGACTTTTC CAGAGTAATT 480
 TTGTTTGCA CATTGATGTT TATTGAAAGTG GACTAATTTC TATAATGCAA ATCAGAGTTA 540
 AATATTAAAA ATTGTGTAAA TACAATTGAC ATAGGAATTAA CATTAAAATA TTAGGAAGAA 600
 ACAAGGACAA ATTTAGACCT TGAATCCGAA GAGATAAACG TTACTTGACT TTCAAATGGA 660
 GAGATGATGA AAACCCACTC ATTCACTGTT TCAGAACAAA AAGACAGTC TCTGATAAGA 720
 GTATGACATG GATGAAATGC CCTACAGGGG CCTTGGACAT CTTTAATTTC TGCGATTATG 780
 TGAAAGAGGT GGACTTTACA GATAATGGAG CAGAACCCAA CATTAGTAAA AGGAATCCCA 840
 ACTTCTTCCC ATAGAATTAG AAACATGTGA AAGTACAATA AACTTCTTGT TCAAATTACC 900
 AGCATCAGAG AGCTTCCCAT TTGCACTAG ACCTTGAATT TATATTTATT GATCAAGTTC 960
 TAATTGTAT GTATATTG TGCAATTCA CCAATAAACAG TTAAAATTAA TTATGTGTTA1020
 TAGTTAATAT ATGCACCTAC CTTCTTCCGT TAGTGCATCA GTAAATGTGT TATTTGTCA1080
 TTTTCCAAA GAGAGTGTG TAGGTTTTCC CTGTAGTTCT TCCTTTATAG CTTTTCTTCT1140
 GATAACCATG ACTTCAGGAG CTTTAAAACAT ATCTATCTTG CATTGTGTC TGGCGGAGAA1200
 CTAGCCATCA GCCTCCTGAA GCCTGCCATC ATTGTTAATT TGAGGACTGG GCTGCTTGG1260
 GGCTCAGAACG GTAAAGAACAT ATTTGAGCAG ATGTGTGTGG GTGGCACTGG ATTCCACCCCA1320
 ACTGCCAAGT TAGTATTGTT AGAGATTCA TTTTACAACA CAAAAATAAG CCTGTGTCAA1380
 AGATTTAAA ATCATGGAAA GTAAAATCT AGAAAGACCT TAGAGAACCA GCCAACCAAC1440
 TCTCTCATTT TAAAAGTGAA GGATTCATAG CACAGATTAC TTGCCTAAGA TCATCCAGGA1500
 ACGAAGACAA GAATCCAAAT GTACTGGGG ACAAGAAATTA GTCCCCAAAT TCAGTGTCT1560
 TCCTAGTATT AAACATTGCC CCTTCGACA AATTTGGAT TTCAATCTTG GTATATTCA1620
 GTAAACCTGC TGATTATTAA GGTACTGGG TAGATGACAT TAGAATGTAG ATAGCGTGCA1680
 CGCTATGATA GACTCTGCTA AGACATGTTC CCAGTGTCCA GCAGCAATGT AGATATGTGT1740
 GACAGTGGTC ATGTAGAAGT TATAAAGCAG AGTA 1774

(2) INFORMATION ON SEQ ID NO. 401:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3982 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 401:

CCCAAGTGTG ATGCATTGTT CTTCAAGATGT TGAAAAGAAA GCAAAAAATA CCTTCTAAGT 60
 TAAGACAGAA TTTTTAACAA AATGAGCAGT AAAAGTCACA TGAACCACTC CAAAATCAGT 120
 GCATTTGCA TATTTTTAAA CAAAGACAGC TTGTTGAATA CTGAGAAGAG GAGTGCAAGG 180
 AGAAGGTCTG TACTAACAAA GCCAAATCC TCAAGCTCTT ACTGGACTCA GTTCAGAGTG 240
 GTGGGCCATT AACCCCAACA TGGAAATTCTT CCATATAAAAT CTCAATGAAT TCCCTTTCAT 300

TTGAATAGGC AAACCCAAAT CCATGCAAGT GTTTAAAGC ACTGTCTGT CTTAATCTTA 360
 CATGCTGAAA GTCTTCATGG TGATATGAC TATATTCACT ATACGTATGT TTTCCCTACTT 420
 CTCTTGAAA ACTGTTGCAT GATCCAACCT CAGCAATGAA TTGTGCTAG TGGAGAACCT 480
 CTATAGATCT TAAAAAAATGA ATTATTCTT AGCACTGTAT TACTCACATG GGTGCAATCT 540
 TTAGCCCCAG GGAGGTCAAT AATGTCTTT AAAGCCAGAA GTCACATTT ACCAATATGC 600
 ATTTATCATA ATTGGTGCCTT AGGCTGTATA TTCAAGCCTG TTGTCTTAAC ATTTGTATA 660
 AAAAAGAACCA ACAGAAATT TCTGTCAATT GAGAAGTGGC TTGACAATCA TTTGAGCTTT 720
 GAAGCAGTCA CTGTTGGTGTG ATATGAATGC TGTCCTAGTG GTCATAGTAC CAAGGGCAGC 780
 TGTCTCCCT TGGTATAACT GATTTCCCTT TTAGTCCCTCT ACTGCTAAAT AAGTTAATT 840
 TGCATTTGC AGAAAGAAC ATTGATTGCT AAATCTTTT GCTGCTGTG TTTGGTGT 900
 TCATGTTTAC TTGTTTTATA TTGACTGTT TAAGTATGAG AGGCTTATAG TGCCCTCCAT 960
 TGTAAATCCA TAGTCATCTT TTTAAGCTT TTGTTTTAA GAAAGTAGCT ATGTGTTAA 1020
 CAGAGGTGAT GGCAGCCCTT CCCTAGCACA CTGGTGGAAAG AGACCCCTTA AGAACCTGAC 1080
 CCCAGTGAAT GAAGCTGATG CACAGGGAGC ACCAAAGGAC CTTCGTTAAG TGATAATTGT 1140
 CCTGGCCTCT CAGCCATGAC CGTTATGAGG AAATATCCCC CATTGAACT TAACAGATGC 1200
 CTCCTCTCCA AAGAGAATTAA AAATCGTAGC TTGTACAGAT CAAGAGAATA TACTGGCAG 1260
 AATGAAGTAT GTTTGTTTAT TTTTCTTAA AAATAAAGGA TTTTGGAACT CTGGAGAGTA 1320
 AGATATAGTA TAGAGTTGCT CTCACACAT GTGAGGGCCA AATAACCTGC TAGCTAGGCA 1380
 GTAATAAACT CTGTTACAGA AGAGAAAAAG GGCCGGGCAC AGTGGCTTAT TCCTGTAATC 1440
 CCAACACTGT GGAAGGCCGA GGCAGGAGGA TCACTTGAGT CCAGGAGTTT GAAACCTACC 1500
 TAGGCAACAT GGTGAAACCT TGTCTCTACC AAAATAAAA TTAGCTGGC ATGGTGGCAC 1560
 GTGCCTGTGG TCCCAGCTAC TTGGGAGGCT GAGGTGGGAG CCTGGGAGGT CAAGGCTGCA 1620
 GTGAGGCCATG ATCATGCCAC TGCACCTCAT CCTGGGTGAC AGCAAGATCT TGAAAAAAA 1680
 AAAAAAAAGAA AAACCCAGGAG TGAAAAAGGA AAGTAGAAGG CAGCTGCTGG CCTAGATGTT 1740
 GGTTTGGGAA TATTAGGTGA TCCTGTTGAG ATTCTGGATC CAGAGCAATT TCTTTAGCTT 1800
 TTGACTTTGC CAAAGTGTAG ATAGCTTTA TCCAGCAGTA TTTTAAGTGG GGAATGCAAC 1860
 GTGAGGCCAA CTGAACAATT CCCCCCGTGG CTGCCAGAT AGTCACAGTC AAGGTTGGAG 1920
 AGTCTCCTTC CAGCCAGTGA CCTACCCAAA CCTTTGTTG TGAAAAGCTG CTCTGGAAT 1980
 ACCGGGAAGC CCAGTTTCT CACGTGGTTT CTAGCTTCTT CAGACTCAGC CCAAATTAGG 2040
 AAGTGCAGAA GCACATGATG GTGAAAAACC TAGGATTGG CAGCCTTCCA GAATGGTATG 2100

GAATCTGAGG GAAGATTTAT GTTCGTTT GGAGGATAGC TCAAGTTGAA TTTTCTTC2160
AGCCAGTTAC CCTTTCAACC TACCCATACT TTGTACAAC TCTACACAAA TACTTAGATA2220
TTTATTAGAT AGCCCTGAAT TCACCTAAT TATAAACAGG GAGTGTAAAC TGCCCCAGA2280
TGTTCTGGG CTGGGTAAAAA GCAGCTGGAG TGAAGCACTC ATTTCCATA AAGGTAACAA2340
AGGGCAGCTC AGTGGTTACT CAAGCTAAA AGGGTTTTT TAAGAGCAAG CATTGGTTAA2400
GTCTGTGTAT ACTGAGTTGG AAGTGAATT AGCACATTCT TTTTAGTGG AGTGAAGTT2460
CTGAAGCCCC CTTTTAACCT CCTCTGGTT TTTCATTATA ATGGTAGCC ATCTCATGAA2520
CTGTCTCTGA CTGTTGTCTC TTTGTTCA TGTGATTGTG AGCTTGCTT CTGACTTGCA2580
TTTCTGACTT TATCCTGTTG TTAGGAAGAT AGAAACTAGG TTTGAAAGA TTACATGATT2640
CAAGCGAGGG ATTTTAAAGT AAAGATGTAT TTATTCTGAA GAATCTAAA GATAACAGAT2700
TATTTGCTTA TGAAAGAACAA ATATAGTCTG GGAATCCAG AATGTCAAGC CAAAGGTCTA2760
AGAAGTCATC TCCTTCAAAT ACTTTAATAA AGAAGTATT CGAGGAGATA TCTGTCAAA2820
AAGGTTGAC TGGCCTCCAG ATTCCAGTTA TTTTTAAAAA GCAACTTACC ACTAAATCCT2880
TGAGTCTCCA TAGAGTAACA GTAAAAGAAC TGATGTAACA GACTCTCCTC TCAAAGGATC2940
TCCTCTGGAA GAGACTATCA GCGGCAGGAT TCTCCAGGGAGACCCATCC CCTAGTGCA3000
GAGCTTGCAT CCTGGAGACT AAAGATTGCA CTTTTTGTA GTTTTTGTC CAAATGCAAT3060
CCCATTCTG TCCCTCTTAG CATGAGTTA GATTGGACA AACAAAGATT CTAAGGAATG3120
ACTTTTAACTATAATATG GTTACAGCTA TTATATAAAAT ATATATTCTG GTTATAGTTC3180
TAATATGGAG ATGTTGTGTG CAATGCTGGC CTGTGGTGGT CTGTGTAATG CTTTAACCTG3240
TATGGAGGAG GCCAGGCTCA GAGCTGAGAT GTGGCCTGAA CCTTCCCTGT ATCGATCCTT3300
TAATTTAGAA CTGTCAAGAT GTCACTTCT CCCCCCTCTGC CTTTTAGTGG TATCTGACAT3360
ATACTCAAAA CAGTAATTTC CTGGTCACAT CATTAACTGC TAATTCTGTA TTTATAAAGA3420
ATTTTCAGAT GGACATGTAC AAATTGAAC TCAAACCATC CCCAGTCCAG ATACAGGGCA3480
GCGTGTAGGT GACCACACCA GAGCCTCAGC CTCGGTCCTT CTCAGCCGTC GGGATAGGAT3540
CCAGGCATT CTTTAAATC TCAGAGGTAG CAGTAAACTT TTCACTATTG CTGTTAGCAA3600
GTGTGTGTTT GCCAATAGAT ACCCATTATA CTAATGTGCC AAGTAAATGT TCATTGCACA3660
TCTGCTCCA CTGTGTTCCC ACGGGTGCCA TGAAGTGTGT GAGGAGCCCC TCATCTGGAG3720
GGATGAGTGCG TGGCGTTGACT ACTGCTATCA GGATTGTGTT GTGTGGAATA TTCATCTACA3780
TAAATTTAT ATGCACAGTA ATTTCCCTT TTATATGTCA AGTAACATT TGAAAAGTT3840
ATACTCACAA ATTATTATAA TGATTACTAA TATATTTTT CCATGTTCA TTGCCTGAAT3900
AAAAACTGTT TACCACTGTT AAAAAAAA AAAAAAAA AAAAAAATGG GAAAAAAAAG3960
CTGGGGGGGG GGCCTGGTAG CC 3982

(2) INFORMATION ON SEQ ID NO. 402:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 1876 base pairs
 (B) TYPE: Nucleic acid
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:
 (A) ORGANISM: HUMAN
 (C) ORGAN:

(vii) OTHER ORIGIN:
 (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 402:

CTCTTGGATC CCCTGGACCA CTGGGCATAC TCGCCATCCT CTTCCGGAGA TCTGGGCAGT 60
 TCGCCTGCAT TAGAGCTCCT GATTGAGATT CAGTGCATCA GCCGTGCTAT CCATCACGTC 120
 CACACCTCTG TGCCCACTCT TGAAGCTGTT GGGAAATATT CAGCAATGTC CGCATCAACT 180
 TGCAGAAGAA TATAATGAC ATTCAGGA TAGAAGATAC CTGATTTTT TTCCCTTTAA 240
 TTTTCCTGGT GCCAATTCA AGTTCCAAGT TGCTAATACA GCAACAATT ATGAATTGAA 300
 TTATCTTGGT TGAAAATAAA AAGATCACCT TCTCAGTTT CATAAGTATT ATGTCTCTC 360
 TGAGCTATT CATCTATTT TGGCAGTCTG AATTTTAAA ACCCATTAA ATTTTTTCC 420
 TTACCTTTT ATTTGCATGT GGATCAACCA TCGCTTATT GGCTGAGATA TGAACATATT 480
 GTTGAAGAGT AATTGAGAG AAATATGAAG AACTGAGGAG GAAAAAAA AAAAGAAAA 540
 GAACCAACAA CCTCAACTGC CTACTCCAAA ATGTTGGTCA TTTTATGTTA AGGGAAAGAAT 600
 TCCAGGGTAT GGCCATGGAG TGTACAAGTA TGTGGGCAGA TTTTCAGCAA ACTCTTTCC 660
 CACTGTTAA GGAGTTAGTG GATTACTGCC ATTCACTTCA TAATCCAGTA GGATCCAGTG 720
 ATCCTTACAA GTTAGAAAAC ATAATCTCT GCCTTCTCAT GATCCAACTA ATGCCTTACT 780
 CTTCTGAAA TTTAACCTA TGATATTTC TGTCGCTGAA TATTGTTAT GTAGATAACA 840
 AGACCTCAGT GCCTCCCTGT TTTTCACATT TTCTTTCA AATAGGGTCT AACTCAGCAA 900
 CTCGCTTAG GTCAGCAGCC TCCCTGAAGA CAAAATTAG AATATCCATG ACCTAGTTT 960
 CCATGCGTGT TTCTGACTCT GAGCTACAGA GTCTGGTGAA GCTCACTTCT GGGCTTCATC 1020
 TGGCAACATC TTTATCCGTA GTGGGTATGG TTGACACTAG CCCAATGAAA TGAATTAAAG 1080
 TGGACCAATA GGGCTGAGCT CTCTGTGGC TGGCAGTCCT GGAAGCCAGC TTTCCCTGCC 1140
 TCTCATCAAC TGAATGAGGT CAGCATGTCT ATTCACTTC GTTTATTTTC AAGAATAATC 1200
 ACGCTTCCT GAATCCAAAC TAATCCATCA CCGGGGTGGT TTAGTGGCTC AACATTGTGT 1260
 TCCCATTCA GCTGATCAGT GGGCCTCCTA GGAGGGGCTG TAAAATGGAG GCCATTGTGT 1320
 GAGCCTATCA GAGTGTCTGC AAACCTGACC CCTGCTCAGT AAAGCACTTG CAACCGTCTG 1380
 TTATGCTGTC ACACATGGCC CCTCCCCCTG CCAGGAGCTT TGGACCTAAT CCAAGCATCC 1440
 CTTTGGCCAG AAAGAAGATG GGGGAGGAGG CAGTAATAAA AAGATTGAAG TATTTGCTG 1500
 GAATAAGTTC AAATTCTTCT GAACTCAAAC TGAGGAATT CACCTGTAAA CCTGAGTCGT 1560
 ACAGAAAAGCT GCCTGGTATA TCCAAAAGCT TTTTATTCTC CCTGCTCATA TTGTGATTCT 1620
 GCCTTGGGG ACTTTCTTA AACCTTCAGT TATGATTTT TTTTCATACA CTTATTGGAA 1680
 CTCTGCTGA TTTTGGCCTC TTCCAGTCCT CCTGACACTT TAATTACCAA CCTGTTACCT 1740
 ACTTTGACTT TTTGCAATTAA AAACAGGACA CGGGGCAGGG AGAAAAGGGT TTTAGTTTT 1800
 AAACCCGGTG GTTACCATAA CGCGGGAAAA GGTGGCCCAT ACGGGGCAAA CGTTTTGAA 1860
 AGGTTAAGGG TATTTT 1876

(2) INFORMATION ON SEQ ID NO. 403:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1216 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 403:

TCTGTTCTGT GGACAACTGT TACTGTTCTT CCGTGGCCAA CCATGGCGGC CACCAGCCCT 60
 ACCCCCCTC CGGCCACTTT CCCTGGACAG TGCCCTCGCA GGAGTACTCA CACCCGCTCC 120
 CGCCCCACACC CTCCGTCCCC CAGTCCCTTC CCAGCCTGGC GGTCAGAGAC TGGCTTGACG 180
 CCTCCCAGCA GCCCGGCCAC CAGGATTCT ACAGGGTGTA TGGGCAGCCG TCCACCAAAC 240
 ACTACGTGAC GAGCTAACGC CACGCAGGCG GCGGGGCGCT GGGGAATCTT CCTCCCCAGC 300
 CCCCAGGCTC GGGAGTTATG CATCCAGAGA CCTGCCCTTC TACCTTCCTC GCCTCCCCCTC 360
 TTECTCATTC CATTGCCCA GGTCTTTCC TTTTGGATTT TGTTTGTT TTGGCTTTGT 420
 TTTTGGATTT TTTTATTAT GAATCTCCTG GACGCAGAGG TGACAGTGGG AGCTGGCCTG 480
 GGCCAGGACG GCAGGTGGCC CTGGAGATGG GAAAGTGTCT GTGTCGAGGC GCTGAGCTCT 540
 CTCTCTGTTT CCTCTTTTT CCTCTACTCC TTCCCTTCA CACCCCGTG GCTGGAAGGA 600
 ACCTCGGCTT CCTGAAAGC TTGGGGGTCC CACCCCTCTT ACCCCACCCG GGAGGAACGC 660
 CCAGGGCCCC GGGCTTGTCTT CTCCTCTTGT TTTCTTTG GGCAGTTGA TCACTGATCG 720
 AGTAAGGAAT GACCTTCTAGA TTGTGCGACT TTTGTTTTG TTTTTTAAA TTTTTTAAA 780
 CCAAGAATGA TTCTCTCTGC TTCTCTCTCC TCACCACATT CCCAGACGGA GTTCAAAGGC 840
 CACTTCTCAA GCAGCTTTG GCACCTTCAG CCTCAGAGTG GAATCTTTA AAGACAGGAC 900
 CCCTATGTCC AGGAAAGGGG AAAAGGAAC TTGCCAATGA TAGTGACCAC AGCAAAAGCA 960
 ATAAAATAAT AAAATAAAAA ACAATAGCAC AGCCCTTGT GAGGTCAGCA GGGAGGAGGG 1020
 GCTGCCCGGA GTGGGGTCCT TGCCTGGATT TTGACACAGC AACTCCTGT AGTGAGCACT 1080
 TTGTATGAAT CGTGGACTTC CTGTTCTCAA GGCGCAGGTA TTTATTCTGT ATCTGTCTAG 1140
 AGCACACACC AAAATCCAAC CTTCTAATAA ACATGATGGC GCAGTCCCAA AAAAAAGAAA 1200
 CAGAAGAAGA AAAGGG 1216

(2) INFORMATION ON SEQ ID NO. 404:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 271 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 404:

RPRAGASIST LAGLSLKEGE DQKEIKIEPA QAVDEVEPLP EDYYTRPVNL TEVTTLQQQL 60
 LQPDFQPVCA SQLYPRHKHL LIKRSLRCRK CEHNLSKPEF NPTSIKFKIQ LVAVNYIPEV120
 RIMSIIPNLRY MKESQVLLTL TNPVENLTHV TLFCEEEGDP DDINSTAKVV VPPKELVLAG180
 KDAAAEYDEL AEPQDFQDDP DIIAFRKANK VGIFIKVTPQ REEGEVTVCF KMKHDFKNLA240
 APIRPIEESD QGTEVIWLTQ HVELSLGPLL P 271

(2) INFORMATION ON SEQ ID NO. 405:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 133 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 405:

DLKQDQGKQK ICIFLKSLGH LLTILLQKTR CSWWSTLSSE ILENIEIKV SNPTPGYQVK 60
 TASLLLQNC GLLAEFYGL QSKWSYLTHH MTKVLNLVRG KVLDIQFWIQ EIIIVNFFK120
 SMERMLVENI LKI 133

(2) INFORMATION ON SEQ ID NO. 406:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 95 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 406:

RGPGHLLKPN GGPPMKGLYG RNLDISPRLP LNRETVKRSI RFHRFWPLIP NSFPHNSVFL60
VSMKCLESRR KPVKIFLKKK KPQKTDHLSI QWTSI

95

(2) INFORMATION ON SEQ ID NO. 407:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 55 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 407:

YSLCPCWPG NFFQWCLLEE VFSSCHFKKI KLEIEYGWHD CTLLVLLFFY SSVPL

55

(2) INFORMATION ON SEQ ID NO. 408:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 127 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 408:

LQEAPCGEHG RHLHKSAMRR DTESELHHQR QVQGAETVGS GQGSAAFSGP SPYARGPGPD 60
 LPLLGGQHLS IRRWFKCVTM SQCVLELPFS NANLPSLHIS PHPWTRFCVS ESGNLLKRGG120
 STPGLLV 127

(2) INFORMATION ON SEQ ID NO. 409:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 95 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 409:

KGVGLLIMGG QQQVLGHRER VRRMLQTPAH CPRSPLPAPA SDGAALIPCL SSLQIYEGAY60
 HVLHKELPEV TNSVFHEINM WVSQRTATAG TASPP 95

(2) INFORMATION ON SEQ ID NO. 410:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 296 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 410:

VVRLAPTFGH YVCTVISHAH EVRQMQLERR VRSGVMSEKD HMVTMHDVLD AQWLYDNHKD 60
 ESYLRRVVYP LEKLLTSHKR LVMKDSAVNA ICYGAKIMLP GVLRYEDGIE VNQEIVVITT120
 KGEAICMAIA LMTTAVISTC DHGIVAKIKR VIMERDTYPR KWGLGPKASQ KKLMIKQGLL180
 DKHGKPTDST PATWKQEYVD YESAKKEVV AEEVKAPQVV AEEAKTAKGS EEESESESDET240
 PPAAPQLIKK EKKKSKKDKK AKAGLESGAE PGDGDSDTTK KKKKKKKAKE VELVSE 296

(2) INFORMATION ON SEQ ID NO. 411:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 280 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 411:

RDQGGGLRS FPRWTGRHD AVQGNMADA E VIILPKKHKK KKERKSLPEE DVAEIQHAE 60
 FFIKPESKVA KLDTSQWPLL LKNFDKLNVR TTHYTPLACG SNPLKREIGD YIRTGFINLD120
 KPSNPSSHEV VAWIRRILRV EKTGHSGTLD PKVTGCLIVC IERATRLVKS QQSAGKEYVG180
 IVRLHNAIEG GTQLSRALET LTGALFQRPP LIAAVKRQLR VRTIYESKMI EYDPERRLG1240
 FWVSCEAGTY IRTLCVHSDQ SRARGTSDAG ASEGSFWSHE 280

(2) INFORMATION ON SEQ ID NO. 412:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 360 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 412:

RHPHPEGVGM FSRGCGSASS ILWKPDPHCPW QRFPGHQEFE EERLRPAGMH GTQRGRGGQV 60
 DPAAHCPGAH GETHLPRPDQ REDHGHGGAT TFSLNCSAAG TPTPSLVWVL PNGTDLQSGQ120
 QLQRFYHKAD GMLHISGLSS VDAGAYRCVA RNAAGHTERL VSLKVGLKPE ANKQYHNLVS180
 IINGETLKL PCTPPGAGQGR FSWTLNGMH LEGPQTLGRV SLLDNGLTV REASVFDRTG240
 YVCRMETEYG PSVTSIPVIV IAYPPRITSE PTPVIYTRPG NTVKLNCMAM GIPKADITWE300
 LPDKSHLKAG VQARLYGNRF LHPQGSLTIQ HATQRDAGFY KCMAKNILGS DSKTTYIHVF360

(2) INFORMATION ON SEQ ID NO. 413:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 314 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 413:

EEGDYTCFAE NQVGKDEMVRV RVKVVTAPAT IIRNKTYLAVQ VPYGDVVTVA CEAKGEPMPK 60
 VTWLSPTNKV IPTSSEKYQI YQDGTLIQQK AQRSDSGNYT CLVRNSAGED RKTIVWIHVNV120
 QPPKINGNPN PITTIVREIAA GGSRKLIECK AEGIPTPRVL WAFPEGVVLP APYYGNRITV180
 HGNGLSDIRS LRKSDSVQLV CMARNEGGEA RLILQLTVLE PMEKPIFHDP ISEKITAMAG240
 PQHSASTALP RGPRHPAWCG SFPMAPICRV DSSCSASTTR LTACYTLAVS PRWTLGPTAA300
 WPAMPLATRR GWSP 314

(2) INFORMATION ON SEQ ID NO. 414:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 109 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 414:

RPVPAKLNPR SWPRTAGALP LRPPPLTMAV FHDEVEIEDF QYDEDSETYF YPCPCGDNFS 60
 ITKEDLENGE DVATCPSCSL IIKVIYDKDQ FVCGETVPAP SANKELVKC 109

(2) INFORMATION ON SEQ ID NO. 415:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 103 amino acids
 - (B) TYPE: Protein

(C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 415:

YAKSTATSHG NLTLTPTWNA ISLALSCHKQ KLRYRNITCS DLAKSFKHST YYTGMLCSSH 60
 SVTNFTSFGC FSFHLVLTSK EYAELYKSPH SFITSFWTFF LVH 103

(2) INFORMATION ON SEQ ID NO. 416:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 144 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 416:

YTMXIIYFTR XILYXQGGIL KYNTPGXSFL LYIMIVSFHI SWXLXXGKGT XKSIFIYIKT 60
 KXXQXRLXPP KCLVSLENNM NEXXKMNQIT WXTHRRXNKK AQEIKSCFKL GHIKGKGSE120
 RRRRKISSQA TKNLXRRQPP NXIR 144

(2) INFORMATION ON SEQ ID NO. 417:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 74 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 417:

LILMGRLIYN XNYLFYKXDS IHXGRHLEVQ YTRXFISSLH YDCEF PYKLX TXHXXGNXKI60
HFYIHKKNKTX PXET

74

(2) INFORMATION ON SEQ ID NO. 418:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 121 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 418:

YPFFTLQQRN RVFDISSLVYK EMLQNVNCFK LKLPLKRPRY IYLIVYIMFN ICQSILQVCS 60
FISIKYGYVV AQLLKWCIV YICTPNNIVC TFCFLYICCA GFFRLYQCNL CLLRYVQKMSI20
I 121

(2) INFORMATION ON SEQ ID NO. 419:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 114 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 419:

FFFFFFFSS FQRIHFFFFF FFFFFGKNVI YLHCFHSSTV VLGLNISITL LFPIYILLEY 60
YYKYNIQFKK TYGETQLMFF SPLYRLLSII RLQWKFIWTF SVHILKGRDY TDKA 114

(2) INFORMATION ON SEQ ID NO. 420:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 765 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 420:

IRPVVQLTAI EILAWGLRNM KNFQMASITS PSLVVECGGE RVESVVIKNL KKTPNFPSSV 60
 LFMKVFLPKE ELYMPPLVIK VIDHRQFGRK PVVGQCTIER LDRFRCDPYA GKEDIVPQLK120
 ASLLSAPPKR DIVIEMEDTK PLLASKLTEK EEEIVDWWSK FDASSGEHEK CGQYIQKGYS180
 KLKIYNCELE NVAEFEGLTD FSDTFKLYRG KSDENEDPSV VGEFKGSFRI YPLPDDPSVP240
 APPRQFRELP DSVPQECTVR IYIVRGLELOQ PQDNNGLCDP YIKITLGKKV IEDRDHYIPN300
 TLNPVFGRMY ELSCYLPQEKL DLKISVYDYD TFTRDEKVGE TIIDLENRFL SRFGSHCGIP360
 EYCVSGVNT WRDQLRPTQL LQNVARFKGF PQPILSEDGS RIRYGGRDYS LDEFEAANKIL420
 HQHLGAPEER LALHILRTQG LVPEHVTETR LHSTFQPNIS QGKLQMWWDV FPKSLGPPGP480
 PFNITPRKAK KYYLRLVIIWN TKDVILDEKS ITGEEMSIDIY VKGWIPGNEE NKQKTDVHYR540
 SLDGEGNFNW RFVFPFDYLP AEQLCIVAKK EHFWSIDQTE FRIPPRLLIQ IWDNDKFSLD600
 DYLGFLEDL RHTIIPAKSP EKCRLLDMIPD LKAMNPLKAK TASLFEQKSM KGWWPCYAEK660
 DGARVMAGKV EMTLEILNEK EADERPAGKG RDEPNMNPKL DLPNRPETSF LWFTNPCKTM720
 KFIIVWRRFKW VIIGLLFLLI LLLFVAVLV SLPNYLSMKG VKPNV 765

(2) INFORMATION ON SEQ ID NO. 421:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 289 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 421:

ETQVVIQRKL VIVPYLNDQP GWDSKFRLVN TPEMLFFRND TELFGWKVVK RENKSPVKIP 60
 FTIQRSMVDI CFLFVFFIAR NPAFDVDVTH FLSCDAFLVQ DNVLGVPDDH TQVVFLGFPG120
 CDVERRAWWP QTLGENIHPH LKFSLGNVGL EGAVQSPCFH VLRDQPLSPE DVKSPLFRG180
 PEVLVQDFVG FKFQIAVVS SISDSTPIFG KDGLWEAFS GDILKQLCWS QLISPGIDS240
 NTVLLWYAAV GPKAGKESVF QINNCFSYFF IPGKGVIIID RNFQVFFLR 289

(2) INFORMATION ON SEQ ID NO. 422:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 90 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 422:

FFFLYSFSSDN HDFRSFKTIY LAFVSGGELA ISLLKPAIIV NLRTGLSWGS EGKELFEQMC60
VGGTGFHPTA KLVLLEISFY NTKISLCQRF 90

(2) INFORMATION ON SEQ ID NO. 423:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 81 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
 - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 423:

TPSGSSWR TY LSRRNSKG ER TG PPLIPMTL PPGPLPTTCG NSQKINSSCN FSGDIAQTHI60
TGDAHFFSIR DSQSEETPCV A 81

(2) INFORMATION ON SEQ ID NO. 424:

- (i) SEQUENCE CHARACTERISTIC:
 - (A) LENGTH: 129 amino acids
 - (B) TYPE: Protein
 - (C) STRAND: individual
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 424:

ENWASRYFQS SFTEQKVWVG HWLEGDSPTL TVTIWAATGG IVQLASRCIP HLKYCWIKAI 60
 YTLAKSKAKE IALDPESQQD HLIFPNQHLG QQLPSTFLFH SWFFFFFFLQ DLAVTQDGVQ120
 WHDHGSLQP 129

(2) INFORMATION ON SEQ ID NO. 425:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 122 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 425:

EAQKWDICIWT KNYKKVQSLV SRMQALALGD GSSLENPAAD SLFQRSSFER RVCYISFFT 60
 TLWRLKDLVV SCFLKITGIW RPVKPFWTDI SSKYFFIKVF EGDDFLDLWL DILGFPDYIV120
 LS 122

(2) INFORMATION ON SEQ ID NO. 426:

(i) SEQUENCE CHARACTERISTIC:
 (A) LENGTH: 105 amino acids
 (B) TYPE: Protein
 (C) STRAND: individual
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 426:

RFKKSPQRQN HNMSRRNKKL LDIPGSFLYD SGLQVKFLSL SSEEFLIPA KYFNLFITAS 60
 SPIFFLGKGM LGLGPKLLAG GGAMCHSITD GCKCFTEQGS GLQQL 105

(2) INFORMATION ON SEQ ID NO. 427:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 96 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 427:

EKYEELRRKK KKKKRTNNLN CLLQNVGIMFM LREEFQGMAM ECTSMWADEFQ QTLFPLFKEL60.
VDYCHSLHNP VGSSDPYKLE NIIFCLLMIQ LMPYSS 96

(2) INFORMATION ON SEQ ID NO. 428:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 151 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

- (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 428:

RKKGETEREL SASTQTLSHL QGHLPSWPRP APTVTSASRR FIIKKNQKQS QNQNQKIQKEK 60
TWGNGMRKRG GEEGRRAGLW MHNSRARGLG RKIPQRPAAC VALARHVVFG GRLPIHPVEI120
LVAGLLGGVK PVSDRQAGKG LGDGGCGRER V 151

(2) INFORMATION ON SEQ ID NO. 429:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 150 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 429:

RHAGGGALGN LPPQPPGSGV MHPETCPSTF LASPLPHSIA PGLFLLDFVVL VLALFLIFFY 60
 YESPGRRGDS GSWPGPGRQV ALEMGKCLCR GAELSLCFSF FPLLLPLHTP VAGRNLGFPE120
 SLGVPPFLPH PGGTPRAPGL FLLLFSFWAV 150

(2) INFORMATION ON SEQ ID NO. 430:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 285 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 430:

SWRTGGWAYA GDRLENKTSV SVASWASSLN ARMDNRFATA FVIACVLSLI STIYMAASIG 60
 TDFWYEYRSP VQENSSDLNK SIWDEFISDE ADEKTYNDAL FRYNGTVGLW RRCITIPKNM120
 HWYSPPERTE SFDVVTKCVS FTLTEQFMEK FVDPGNHNSG IDLLRTYLWR CQFLLPFVSL180
 GLMCFGALIG LCACICRSLY PTIATGILHL LAGLCTLGSV SCYVAGIELL HQKLELPDNV240
 SGEFGWSFCL ACVSAPLQFTM ASALFIWAHH TNRKEYTLMK AYRVA 285

(2) INFORMATION ON SEQ ID NO. 431:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 116 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 431:

LCPEWWAIPM HVFGYGDTPS PQSHCAIVSK KCIIISLFIC LITNEFIPDA FIQITGIFLN 60
WTSIFIPPEVC ANGGCHVDGG NEAKHTSNYK CCSKTVIHSG IQTARPGCYG DRGLVL 116